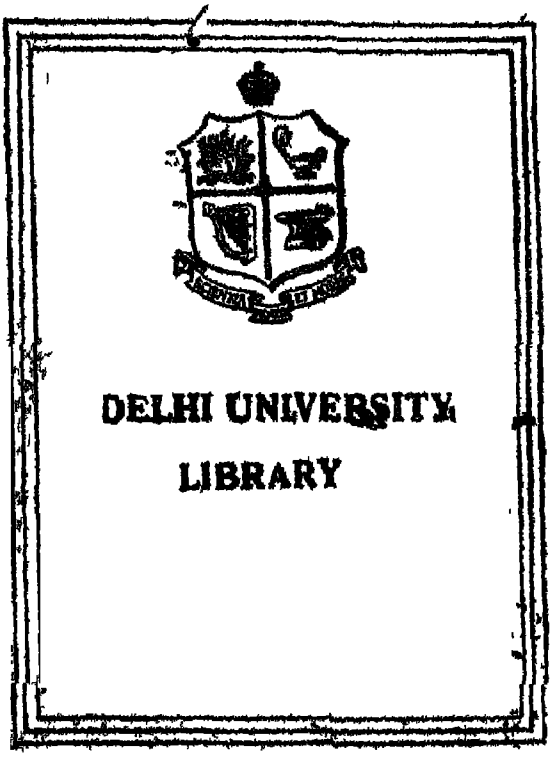
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"THE BOMBAY PLAN A CRITICISM"

(POPULAR BOOK DEPOT, BOMBAY)

OUR ECONOMIC PROBLEM

BY

P. A. WADIA, M.A.

FORMERLY PROFESSOR OF POLITICS AND ECONOMICS
WILSON COLLEGE, BOMBAY

AND

K. T. MERCHANT, M.A., LL.B. (BOM.),
B.SC. (ECON.) (LONDON)

PROFESSOR OF ECONOMICS
SYDENHAM COLLEGE OF COMMERCE AND ECONOMICS, BOMBAY

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PREFACE

The title of this volume is intended to stress a fact which is too often overlooked by those who are concerned with the economic life of our country, or who happen to write about it. We are concerned in this work with "our economic problem"—a problem which is one and indivisible—the problem of our poverty. We have endeavoured throughout this volume to avoid that compartmental view of economic life, which offers a ready solution for each of its aspects without reference to its bearings and reactions upon others. We have likewise stressed the fact that the welfare of our country is determined not merely by the healthy functioning of its economic institutions, but requires a well-adjusted and harmonious growth of our social, political and cultural institutions. Ultimately, the various economic problems of India merge into the fundamental economic problem, which it has been our purpose to explore and expound here, of removing the causes of poverty and raising the standard of life of the people, so that the freedom and leisure which may ensue may enable them to make their cultural contribution to human civilisation.

We have dealt in the present volume with problems connected with our production, distribution and consumption. We hope in future to deal with the problems of our trade and transport, currency, banking and finance in a companion volume.

It is hardly necessary to mention that for the factual data in this work we have, of course, drawn upon the various statistical publications of the Government of India and upon the reports of the various commissions and committees appointed by the Government of India and by some of the Provincial Governments from time to time. We have also utilised the publications of the League of Nations, especially for comparative purposes. Our obligations to authors of specific studies, Indian and foreign, have been acknowledged in the text. However, special mention may here be made of our debt to the works of Drs. Buchanan, Radhakamal Mukerjee and Gyan Chand, Professor B. P. Adarkar and Mr. N. Das. We record here our general debt to these and other authors whose works have been of help to us.

We cannot omit to express our sense of gratitude to Professor J. J. Anjaria for the readiness with which he has helped us by reading through the entire manuscript, in spite of heavy pressure on his time, and offering

valuable criticisms and suggestions, some of which we have incorporated in the volume. It is not necessary to add that he is in no way responsible for the views and conclusions embodied in this work. We are also grateful to Mr. G. N. Joshi, Advocate, for having helped us with suggestions in parts of the volume.

We are thankful to the Librarian of the Bombay University, Dr. P. M. Joshi, and to his staff and particularly to Mr. A. M. Narvekar, for placing at our disposal all the available books and journals, to Professor C. N. Vakil for giving us facilities for the use of the School of Economics' Library and to the Secretary of the Indian Merchants' Chamber, Mr. J. K. Mehta, for giving us access to the Chamber's Library. We also thank all other friends who have helped us by lending books and journals.

In closing, we may add that we have never deliberately allowed our desire to seek the light to be subordinated to any preconceived notions or prejudices. We send forth this volume in the hope that it may stimulate thinking, and that it may inspire those who read it into that creative imagination which rises above all parochialism and vested interests.

BOMBAY
September 1943

P. A. WADIA
K. T. MERCHANT

consequently, wherever monopolistic capitalism prevailed, intervention by Government became inevitable. Price control of some kind, the assumption by Government of monopoly concerns like railways and other means of communications, limitations of profits in public utility concerns, protection of industries by imposition of custom duties—these measures among others have marked the industrial society of our times. Laissez-faire has been increasingly replaced by state regulation and state management.

The World War of 1914 and the subsequent period of dislocation of the entire social and economic structure necessitated what was virtually a policy of more or less state regulation for most countries. Throughout the period the scarcity of commodities and the necessity of rehabilitating the economic system compelled some governments to resort to a policy of planning, involving price control, rationing of food and clothing, conscription of labour for military and civilian purposes, and organisation of the entire productive resources of the country for the successful accomplishment of a definite objective.

1929-39

The post-war period saw the development of a large variety of economic experiments. Parliamentary government on a democratic basis was discredited, mostly due to the conflicting economic interests of party groups, who made unholy alliances and unmade them, according to their short-sighted views of national interests. The confusion and dislocation which followed in the post-war period intensified the economic competition between nations. The rise of Socialist Russia led in other countries to a new type of governmental experiment in the form of Fascism largely a political manifestation of monopoly capitalism in crisis. The masses were lured into a support of Fascism by the lavish promises of an 'autarky' to solve the post-war economic problems. Under the name of national socialism a planned economy with war as its objective was set up in Germany and elsewhere. In Soviet Russia a highly centralised government has demonstrated the possibilities of a planned economic development in a new order based on the abolition of private property, and on the transformation of its subjects into the zealous servants of society. Elsewhere as in America control of prices and credit control, piecemeal as they have been, mark the trend of a new age when governmental interference in economic affairs, far from being regarded as a violation of economic laws, is recognized as an indispensable method of increasing economic prosperity, diminishing unemployment and making nations rich and contented.

It was the economic depression that commenced in 1929 that offered in the U.S.A. a challenge to its economic organisation compelling the

Government to abandon its policy of non-interference, and to enter on a New Deal—a bold programme of public works through loans which provided jobs, created new purchasing power and saved from degeneration through unemployment the character of its citizens. We cannot help observing that state regulation in the U.S.A. within the structure of the competitive system led at times to practices like the deliberate destruction of goods and services in order to prop up prices. A variety of international restrictive schemes curtailing the production of cotton, wheat, sugar and rubber are indicative of the half-hearted measures of regulation which one might well characterise as anti-social in their effects ; for we cannot forget the fact that, when wheat and coffee and cotton were destroyed, there were millions who were in want of food and clothing. In such a rapidly changing environment, such as that which marked economic life in the *post-war period, institutions cannot remain unaltered.* Nations all the world over were gradually realising the effectiveness of government ownership and control over the tools of production and distribution as compared with private enterprise and a laissez-faire attitude. It was likewise the depression which started in 1929 that made a country like Great Britain abandon its policy of free trade in favour of Imperial Preference, aiming for the first time within the orbit of the Empire at what the old Mercantilism sought to achieve in the purely national field. This policy was progressively extended after 1931, bringing even a reluctant India within the orbit by the arrangements made at the Ottawa Conference.

In brief, the period from the end of the last war, and particularly the depression and post-depression periods, have seen the rapid development of collective or state regulation or control of economic activities. It has started from protective tariffs for fostering industry and agriculture and subsidies to exports, and has been gradually extended to the control of all domestic production, to the prohibition of certain types of imports, to the limitation of imports under a quota arrangement, to the planning of the capital market by control of investments at home and abroad, the regulation of the purchasing power of money and of the foreign exchanges, and restriction of migration.

The outbreak of the war in 1939 has led to the organisation, in however halting a manner, by the state of all the available resources of each of the belligerent countries—in the shape of raw materials, labour, capital, credit and foreign trade—for the single purpose of ensuring victory in a total war. This organisation is not confined within each country as a separate compartment, but has to be carried out on an international scale on a co-operative basis. The necessities of war have once again

forced, reluctant nations, hitherto thinking in terms of economic self-sufficiency, to think and act in terms of a larger world of inter-allied nations in which all economic activities are to be co-ordinated by a central organisation.

In spite of the pressure exercised by the course of events on these individualistic countries, rumblings and protests are not inaudible that profiteering by individuals has weakened the war machine and undermined the efforts of co-operation. The hope for humanity in the future lies in the increasing realisation by the nations of the necessity for retaining, improving and systematising, in times of peace, the halting methods of planning that they have been compelled to adopt in times of war as the only medium of survival and escape from destruction.

The theory of free trade was based ostensibly upon the economic law of production at the minimum cost. This law was supposed to be a result of economic competition leading to international division of labour. But economic competition sharpened by the mad pursuit after profit led to a scramble for capturing of markets and colonies, and political domination of the backward countries by the economically advanced countries. The drive towards 'autarky' during the post-war period was not prompted by a desire for national self-sufficiency for its own sake, providing necessities to one's own people, but by the desire to avoid dependence on foreign supplies of food stuffs and other vital things which might endanger the country's safety during war. There was also the desire to strengthen one's capacity for competition for markets and get political domination in the under-developed and undeveloped parts of the world, within the framework of the capitalist structure. Only one country was an exception to this, namely, Soviet Russia.

When we consider the post-war economic order—a departure from free trade—as partly responsible for the insecurity that prepared the stage for fresh wars in the world, we are not favouring a free trade regime that is based upon the principles of competition for securing sources of raw materials and markets for manufactured goods. This so called free trade has always been a one-sided affair which has resulted in inequitable division of labour, condemning the economically backward countries to a perpetual 'hewers of wood and drawers of water' status.[1]

When we plead for relative economic self-sufficiency for India, it is with a definite objective of securing a decent life for our countrymen,

[1] Cf. "Of China's working population 50% has been kept in the mines or in the fields. In China 80% of the working people are agricultural, in Thailand 80%, in the Netherlands East Indies 70%, in Burma 70%, in Indo-China 80%, in most of Africa the proportion is even higher." ('Make this the Last War' by M. Straight, p. 31).

without any idea of preparation for a war either economic or political, as has been frequently the case in other countries.

Economic Policy under British Rule

If we turn from the trend of economic policy in the rest of the world to the trend of events in India, the one salient characteristic of our economic life during the past 100 years has been a persistent adherence on the part of Government to the laissez-faire traditions of the last century. In agriculture, for example, whilst the Dominion Governments have adopted a definite policy of agricultural development during the last 40 years and have accelerated the rate of agricultural exploitation by transportation facilities, a liberal land policy, effective credit institutions, a well-planned system of popular education and Government help to marketing schemes for export, India, where three-fourths of our population are dependent on agriculture, continues its old world methods of cultivation. The Government has failed to provide so far adequate facilities for marketing and finance ; there has been very little of popular education, and still less of agricultural education. India continues to remain a land of uncertain crops, and of economic development without a definite national objective.

In reference to non-agricultural production, after a hundred years of British Rule, industrialism and large-scale production may be said to have touched only the fringe of Indian life. In the West the significance of the Russian experiment lies in the fact, not that industrialisation under state organisation has been forced on at an unprecedented pace, but that this is being done under conditions which have adjusted production to consumption. In other countries where capitalism has played an essential part in the development of industrialism in the last century, the incentive of private profit and individual enterprise were associated with the growth of production. A laissez-faire policy was the natural outcome, glorified by economic theory as the solvent of all ills and the foundation of all prosperity. But the industrialism of the last 40 years, with its restriction of production, its wanton destruction of commodities, its paradox of poverty in the midst of plenty, has made the continuance of laissez-faire policy impossible. Industrialism has now reached a stage when systematic planning and centralised control are necessary both for the purposes of production and equitable distribution.

Industrial Development under British Rule

What it may be asked, about our own industrial development ? The traditions of a laissez-faire policy which had promoted British prosperity in the 19th century were brought to bear in our country. It is not till the

beginning of the present century that the first signs of planning, if it could be called planning, appear in the form of the demand for protection. Credit and banking are in primitive condition except for the establishment of a Central Bank, whose control is vested in an agency that is not yet fully identified with national interests. Speaking as recently as the 20th December, 1942, on the question of the war time development of Indian industries Sir M. Visvesvaraya observed : "Government have no policy or plan, no unified conception of what they are doing or what they propose to do in a matter which gravely affects the purchasing power of the 400,000,000 of our population." The economic development of India in the past 30 or 40 years is difficult to describe in an accurate manner. There has been a complete lack of a consistent policy. The policy of discriminating protection of Indian industries, as it was adumbrated by the Fiscal Commission 20 years ago has hardly been followed with consistency. The Fiscal Commission thought in terms of a world governed by free trade. Their recommendations were based upon the infant industry argument and the possibility of protected industry being able to dispense with protection within a limited time. They did not, and perhaps could not, take account of the forces that were making for economic nationalism after 1919. The loans given to European countries for resuscitating national currencies were used for continuing subsidies to national industries. They could not have realised that the forces that made for economic reconstruction after 1919, and that made some people hope for a return to the pre-war system of international free trade, were swamped by the desire for economic self-sufficiency, necessitated by the period of depression and the ardent preparations for another war.

The last war gave plenty of opportunity for the industrial development of India. It revealed both the potentialities and deficiencies of Indian industries. It was difficult, however, for India to take full advantage of a temporary protection given by war as she had to depend for plant, machinery and accessories on imports from abroad. Thus in a world dominated in the post-war period by preparation for war and the desire for self-sufficiency Indian development could only achieve the displacement of a few imported commodities by goods produced at home. There was no attempt at securing the harmony of economic development, no vision of the possibilities of developing production goods like machinery and chemicals, no thought of using these production goods for the expansion of our agricultural potentialities, so that with a rise in the standard of living our people could live a fuller and a richer life.

Hence, the outbreak of the present war has again found us

unprepared for utilising the vast opportunities offered to us by the war to develop our industries. The absence of key and basic industries like chemicals and metallurgy—which was commented upon by the Industrial Commission in 1919—again stands in our way of development. The Grady Mission that came out to India in 1942 found that India's magnificent metallurgical resources were unused, and that the Indian industries that had been developed were operating largely on a business-as-usual basis, and that no Government agency existed to convert them to war work.[1] Australia and Canada have been able to exploit fully the opportunities offered by the war, and have established a number of new industries, while we have been content to follow the traditional policy throughout, due to the lack of a well-conceived plan and a definite national objective. Not only that, but we are also in danger of losing the larger perspective of the future by following a short-term narrow policy devised from day to day under the pressure of war requirements.

Post-War Planning

In the midst of the present war the British Association for the Advancement of Science arranged a conference for Science and World Order which met in London in September, 1941. The key note of this Conference was the application of scientific knowledge to the solution of vital problems that face the world, and above all, to the solution of economic problems. Mr. Maurice Dobb, a Cambridge Economist, described planning, at the Conference, as a mechanism for eliminating the uncertainties and fluctuations of economic activity which form an integral part of an individualist economy. Whilst there were a variety of interpretations as to the scope and objectives of planning, it was generally recognized that the utilisation of scientific knowledge for the advancement of economic welfare cannot be achieved in a muddled and planless world in which mankind were in social and economic conflict. It was also pointed out that the problem of planning was not a technical problem of organisation, but one of getting agreement as to what benefit to humanity means, and also of overcoming the fact that people are more concerned with benefiting themselves than humanity.

Probably no country in the world stands to-day in such urgent need of planning as India. For the last 100 years this country has been ruled as a dependency by a sovereign with the seat of authority thousands of miles away. The belief that institutions and methods suited to the ruling country must be good also for the dependency has brought about an

[1] M. Straight, op. cit. p. 32.

economic maladjustment, if not chaos, in India. In spite of industrialisation there has been visible deterioration in our national life. The war has forced the pace ; and post-war reconstruction problems have been discussed with all the care and earnestness that leaders of thought and opinion can devote to them. The Government of India have appointed an Economic Reconstruction Committee, and even before the war an Economic Planning Committee was at work under the aegis of the Indian National Congress. But in all the proposals for post-war reconstruction that have been adumbrated in the West, India and the Asiatic Nations do not come into the picture. President Roosevelt has promised to all the fighting nations the Four Freedoms which form the basis of the Atlantic Charter. But these are not easily reconcilable with Mr. Churchill's desire to see Britain's Empire prolonged into the post-war world. There have been repeated references by representative spokesmen of the U.S.A. to a return to 19th century free trade and free exchanges, to equal access to the food and raw materials of the world in a free market. Such references presuppose a perpetuation of earlier economic conditions in which industrialised countries sought for markets in undeveloped lands. Shall we in India reconcile ourselves to a post-war world of this kind, in which we would remain suppliers of raw materials and food stuffs ? Or shall we take heart when there is time, and outline for ourselves a new pattern of economic life which the present war offers us prospects of realising ?

The war that is being waged to-day will offer an unprecedented stimulus to the extension of credit which, if wisely used, might enable India to transform her agriculture and build up her industries so as to fit her to take her proper place amongst the nations of the world. The enormous purchasing power that we have already acquired through the accumulation of our sterling credit, the unrivalled control of natural resources essential for the development of large-scale production, the helpful experience which our country has gained for building up a war economy—these are materials on which the future life and prosperity of India can be built up, aided by the increasing development of Governmental functions, public control and regulation of all our economic activities. Presiding over one of the sessions of Science and World Order, Mr. Maisky, the Soviet Ambassador in London, observed : " There will undoubtedly come a day when a system of very comprehensive planning —economic, social, political—will embrace the whole world." That date may not be very near ; but there can be no more urgent call than the one that demands clear thinking on a planned basis of the future of our country, on the part of those who have the opportunities and leisure to respond to this call.

Indian Economics—Aim of the Present Work

We have been frequently told that the expression "Indian Economics" is a misnomer, that there is no such science that can be properly called by that name. It is also said that the principles of economics as a science are of the nature of general laws applicable to all times and places ; and that if they were not so applicable such a science would have no claim to recognition. Those who raise these objections fail to take account of certain vital scientific considerations. The principle of division of labour and specialisation is as operative in the field of scientific studies, as it is in other fields of human activity. The advance of the social sciences, which has been so marked from the beginning of the last century, has been dependent upon the differentiations of the various types of social activities which form the basis of the respective social sciences. But whilst each of these social sciences has to treat as irrelevant those aspects of human activities which do not directly come within its purview, it is equally true that no successful interpretation of the life and activities of any country or nation is possible, if we endeavoured to explain these activities in terms of the laws of any one of these sciences taken by itself. Human life, whether we take into account the life of the individual or the life of a corporate body, is an organic unity and functions as one. When we are applying, therefore, the laws of economics to the life of any single nation, we have to take into account the historical environment, the habits and modes of behaviour of the people, their social and religious institutions, to the extent to which they modify and influence their economic life. Classical economic theory was an analytical study of the conditions that prevailed in the 18th and the 19th centuries in countries like Great Britain, and the laws of economic science enunciated by Adam Smith, Malthus, Ricardo and Mill were a descriptive account of a capitalist society with competition and laissez-faire principles underlying it. The events of the last 40 years in the economic world have largely discredited many of these so-called laws of economic science. Soviet Russia has developed a new economic theory capable of explaining the modes of working of the new economic organisation brought into existence after 1917. Even in the earlier days the German Economist, List, elaborated a new economic theory suited to the conditions of the Germany of his days. We feel confident, therefore, in the use of the term "Indian Economics" as connoting a study of the economic life and problems of India, in the light of its past history, of its social and religious institutions, of its physical environment and potentialities, and of its political evolution under British Rule.

The present work claims to be a study of Indian Economics in this

sense. The authors hope to present in a compact form a survey of the economic problems of India which is intended for the use of the younger generation who have to study Indian Economics in their University careers. This work will also be of use to the larger reading public who are desirous of obtaining a general understanding of our economic life and destiny. They hope in the course of the work to indicate the conditions on which this country can build up for itself a prosperous life in the post-war world, and what the leaders of a free and independent India might achieve by planning to bring into operation those conditions of prosperity. Their purpose in writing this book is two-fold, an analytical and historical survey of our economic life and problems as they face us to-day, and what a free India of the future can immediately achieve by a considered programme of economic reconstruction, when the obsession of the war in which we are involved has relaxed its grip over our minds. There is an increasing recognition by the nations to-day that economics is also an art, and not merely a science. The failures and maladjustments of an economic order that was suited to the needs and demands of the 19th century have forced upon men's minds the desirability of planning for a better order. Starting from this premise, and also assuming that post-war India will be able to determine and plan its own economic life, the authors will attempt in these pages to indicate the nature of the economic ailments from which the country suffers in the matter of production, distribution and consumption, and to adumbrate the ways and means by which such ailments can be removed. Whilst they regard this as their main objective, they are not unaware of the limitations imposed upon them by halting information, unreliable statistics, and lack of knowledge of such original materials as are not available for public scrutiny.

There is a type of economic opportunism that seeks to tinker with each economic problem as it happens to arise within what it regards as an unchangeable structure. Such opportunism is characteristic of most of the commissions and committees that have been entrusted with the task of reporting upon Indian questions in the past. It is equally characteristic of the special experts who have been imported from abroad from time to time to advise the Government of India. It is but natural that such attempts should be made to remedy each malady as it occurs, and to stop in time a breach in the walls from which the waters might otherwise spread the floods of destruction. But just as the statesman looks ahead, and thinks in terms of principles and not of particular incidents in the political field, so those who have for their objective the planning of a new economic order might well think in terms, not of developing an industry here, or the removal of an odious form of taxation there, but in terms

of a larger vision that looks beyond the present. The authors make no claims to the possession of this larger vision in the present attempt. All that they claim is an attempt to survey the problems of the country in their inter-relations, remembering that the life of a nation is an organic whole, that economic planning will involve planning of the social and political structure, and that successful planning in any of these directions is not possible except in the background of an appropriate culture and a sense of values.

CHAPTER II

THE NATURAL RESOURCES OF INDIA

In the narrower sense, the natural resources include appropriable gifts of nature ; but in the broader sense they include those aspects of nature like air, water, sun-shine, animal and vegetable life which satisfy human wants. They likewise include substances and forces which man has transformed for the satisfaction of his developing desires. Every invention which increases man's control over nature also increases the sum total of available resources. Man and his resurces have been rightly designated functional reciprocals. Amongst these resources land, as surface land, was regarded as occupying the predominant position. The utilisation of land was the occupation of the majority of all peoples before the advent of the Industrial Revolution in the last century. The revolution that has occurred in the processes of production by the invention of the steam engine, the water turbine and the oil engine has brought about a change which has subordinated the value of surface land to that of coal, petroleum and the metals. Thus in the world to-day the metallic industries play a larger part in the economic life of nations than industries connected with food and raw materials. But India's main industry is still agriculture. The natural resources for the development of heavy industries and the potentialities of an industrial civilisation which we possess contain the promise of an economy infinitely superior to the agricultural economy which our country has hitherto enjoyed. An American Professor of Geology is confident that " with her coal, her iron, her man power, India could share Asiatic leadership with China, or perhaps assume the outstanding rôle in the industrial development of Asia."[1]

The Soil

India is almost a continent in size and possesses a great variety of soils and climates. But the variations in types of soil, such as are met

[1] Charles H. Behre in an article on "India's Mineral Wealth and Political Future" in *Foreign Affairs*, October, 1943.

with in England, necessitating the growing of specific crops on each type of soil, are not so well-marked in India. Three different types have been noted—(a) alluvial tracts composed of mud and sand stretching across the North from West to East, (b) the black cotton soil mostly in the Central and Western parts of India and (c) the hard rocky type covering the Southern and South Eastern portions of the country. For revenue purposes, however, in each province a number of subdivisions are found, each district having its own classifications under local names. The most divergent varieties of cultivation are to be found in Bengal, where there is a heavier and more reliable rainfall as compared with the dry areas of the country.

The agricultural resources of India, so far as land is concerned, may be estimated from the following table :—

Land in British India in millions of acres, 1940-41

Classification	Acres	Percentage
Total area	512	100
Forests	68	13
Not available for cultivation	87	17
Cultivable waste	98	19
Current fallow	45	9
Net area sown	214	42

It will be observed that if we exclude the area under forests, 58.1 per cent of the remaining land is under cultivation including fallow, whilst out of the remaining 41.9 per cent, deducting about 6 per cent for urban land, at least about 35 per cent of land may be regarded as land that can be brought sooner or later under cultivation. The official classification of land under the head "not available for cultivation" is a little misleading. With modern scientific advances the line between cultivable waste and land not available for cultivation will be more and more difficult to draw. Professors Bowley and Robertson have also pleaded for the abandonment of the imaginary and misleading distinction between these two. Current fallow can be reduced by better rotation. Cultivable waste can be brought under the plough by reclamation schemes.[1]

[1] "One curious thing in India is that according to the Government statistics one-third of its cultivable land lies idle—not fallow. . . . This cultivable land in many cases has never been cultivated, partly because the people insist on leaving large areas uncultivated to graze their cattle. In some parts of India large areas of good land lie uncultivated also because of bad government . . . and some of the waste land is simply land that has not yet been turned and improved. . . . With modern methods of erosion prevention and soil reclamation, much of the so-called uncultivable waste of India can be brought into profitable cultivation." Sam Higginbotham, 'India's Agricultural Problems,' Institute of Pacific Relations, N. York, 1942, p. 29. Quoted in *Pacific Affairs*, June, 1942, by S. Chandrasekhar in 'Population Pressure in India.'

In a country like the U.S.A. where the economic prospects of agriculture have been changing, due to decline in the birth rate and decrease in exports of farm products, the Hoover Committee on Social Trends called attention to the vast reserves of land which could be put into crops after clearing, drainage and irrigation, amounting to 300,000,000 acres, and another reserve of 300,000,000 devoted to pasture which can be cultivated by ploughing and planting. There is no room in this classification for land not available for cultivation. The problem in the U.S.A. is the problem of expansion in non-agricultural uses of land, whilst ours is primarily a problem of expanding the use of land for agricultural purposes.

Rainfall

Rainfall in India has been very often linked up with the recurrence of scarcity and famine conditions in various parts of the country from year to year. In Assam, Eastern Bengal, and in the parts bordering on the Western Ghats, we have the regions of ample rain. Differences of temperature are not very great in parts where there is heavy rainfall. In Southern India we have regions of uniform warmth, whilst in the West and the North-West, there are marked differences of heat and cold. In the North and the North-West, there are two clearly defined crop seasons, namely, the rainy season (Kharif) and the cold season (Rabi). In Bihar and other parts of Bengal there are three seasons, the early rainy season, the late rainy season and the cold season.[1] Systems of cultivation vary acording to climate. Rice is grown abundantly in the tracts of heavy rainfall, like Bengal and parts of Bihar, while in districts like Khandesh, rice is replaced by cotton and millets.

From the point of view of rainfall the country may be divided into three tracts—(1) districts with an abundant rainfall like Assam, Eastern Bengal and districts adjoining the Western Ghats ; (2) the Central Provinces and a great portion of Central India with sufficiency of rainfall and a black soil which helps in retaining moisture ; (3) the driest regions of the country—the plains of the Punjab and Rajputana and entire Sind. The districts which are most liable to famine are those where the cultivator is tempted to risk the growing of a crop, due to the uncertainties of rainfall. These extend over a great part of North-West India, Rajputana, the Deccan and Madras. In other parts like the Punjab

[1] In Bengal there are three rice crops (1) Aus, or autumn crop, on high lands, sown in April or May and harvested in August or September ; (2) Aman, or winter crop, on low lands, sown in May or June and harvested in December or January ; and (3) Boro, or summer crop, sown in depressions and swamps in January or February, and harvested in April or May.

the cultivator never grows a crop unless there is certainty of water supply. In Assam the annual rainfall ranges between 90 and 100 inches. In parts of Bombay, like the coastal areas and districts bordering on the Ghats, the rainfall varies between 60 and 90 inches. It has also to be noted that there are remarkable divergencies in the annual rainfall within quite limited areas. At Segowlie in Bihar there is a rainfall of 80 inches yearly ; 9 miles away to the west at Rajghat it is 15 to 17 inches : and 12 miles south-west of Rajghat it is 26 inches.

The following table gives the 'normal' annual rainfall in the Provinces :—

Sind	6.3	Madras	Malabar		100
Bengal	74.3		South East		35.6
U.P.	38		North Coast		37.9
Orissa	57		Deccan		24.9
Assam	100	Bombay	Gujarat		32.5
N. W. F. Province	15.9		Konkan		107.0
Bihar	50		Deccan		30.4
C.P.	48	Punjab	East & North		23.3
Berar	32		South-West		10.0

But there are often large deviations from this 'normal' which prove very upsetting to the agriculturist. The capriciousness of rainfall in India manifests itself in a variety of ways. The monsoon may start late, or heavy rains in July and August may delay agricultural operations, or the rains may not be sufficiently prolonged and distributed. There is hardly a year when partial or total famine conditions do not occur in some part or the other of this vast country. There is nothing unnatural if the people of this country, dependent as they are upon the caprices of rainfall, have acquired a temperament that makes them easily reconciled to constant changes of fortune, a temperament bordering on fatalism. Afforestation and irrigation are the two main devices to help this situation.

Forests

Forests may be classed in the category of renewable natural resources. The real value of forests for agricultural prosperity consists in their lowering the temperature and enabling the soil to retain moisture. They are helpful in condensing clouds and bringing rain. The forests preserve and even increase the fertility of the soil by storing water and preventing floods. Thus the frequent floods in Orissa have been attributed to the de-forestation of the hill slopes of Chota-Nagpur. "By checking erosion

they prevent good soil from being washed into rivers and carried away to waste." "They are a valuable asset in times of famine, for they yield vast quantities of fodder and provide edible fruits and roots." In a country like India forests are capable of supplying wood for fuel and the sources of charcoal for domestic and industrial use. The timber from the forests can be utilised for the manufacture of agricultural implements, and the leaf mould gathered from the forests constitutes an important source of manure. Forests, moreover, under an improving economy have been found to be a chief source of paper supply. From 80 to 90 per cent. of the world's paper today is made from wood fibre. Chemists tell us that the future will be an age of cellulose, in which forests may play a dominant part.

In 1941, 68 million acres out of a total area of 512 million acres in British India were covered by forests. The forests cover 98,200 square miles ; they are classified for administrative purposes as below :—[1]

Reserved forests . .	72,900	square miles
Protected forests . .	6,800	„ „
Unclassed . . .	18,500	„ „

"Reserved" forests are Government property. "Protected" forests are those over which Government have proprietory rights, but which are not included in reserved forests. Government may declare any class of trees reserved, or close any part of the forests for a term not exceeding 20 years. All other forest lands under the control of the Forest Department are designated "unclassed" forests. There are in addition, quite large areas which are not under the Forest Department. The most valuable product of the reserved forests is timber which supplies not only the internal demand for bodies like the railways, but foreign markets in Europe.

The following table shows our timber resources from forests over the last few years :—

Timber and Fuel Out-turn in millions of cubic feet

1927-28	..	370	1937-38	.	280
1930-31	..	323	1938-39	..	285
1933-34	..	317	1939-40	..	294
1936-37	..	376			

It may be noted that the total value of wood imported by India in 1939-40 amounted to Rs. 2,15,00,000.

A conference of foresters held at Dehra Dun in 1942 has revealed how India can be independent in respect of forest products. India

[1] The figures supplied in the first edition of our book inadvertently included those of Burma also.

depended for teak wood on Burma. An engineer from Mahrashtra has claimed to have ended the era of tutelage to Burma teak and American ash and hickory. The war had displayed India's humiliating dependence upon foreign resources in respect of handles for tools. A botanist and a wood technologist from Bengal conjointly with a Welsh silviculturist co-operated in determining suitable woods for aircraft building. A specialist in seasoning from the U.P. and a wood preservation expert from Mysore solved problems that enabled India to get along without imported plywoods, battery separators, shuttles used in cotton and woollen mills and the like.[1]

When we look to these enormous potential resources in the shape of forests, the contrast of what might be and what is appears very striking. The training of Indians in forestry was started in our country as early as 1878. Efforts have been made by Government in some directions like the production of paper on a commercial basis. But we are still largely dependent on foreign supplies of paper when we could be easily self-sufficient. The potentialities for the industrial utilisation of our immense forest resources which the Government of India calls "Minor Products", still remain potentialities. Apart from paper manufacture there are promises in the future for the production of rubber, turpentine oil and medicinal herbs which demand from us to-day, not only that we must not allow unrestricted destruction of forests, but that with the help of our government we must undertake the extension and development of existing plantations, and make provision for more reserves and new plantations.

Water and Irrigation

In a country like India, where there are vast regions entirely dependent on rainfall, some of them like Sind and the Punjab, with a total rainfall entirely inadequate for agricultural purposes, it is a truism to state that agricultural production and development will be largely determined by facilities in the shape of irrigation works. Even where the rainfall is abundant for agricultural purposes production will depend on adequate and well-distributed rains. Irrigation, moreover, is necessary for growing winter and rabi crops. India has been favoured by nature with advantages that are not met with to the same extent in other parts of the world. The perennial rivers, like the Indus with its tributaries and the Ganges fed by Himalayan snows, offer potentialities for irrigation which are unparalleled when combined with the rich alluvial soil. Years ago Sir Charles Trevelyan observed, "Irrigation is everything in India; water is more valuable than land, because when water is applied to land

[1] *Modern Review*, December 1942, p. 445.

it increases its productivity at least six-fold and generally a great deal more ; and it renders great extents of land productive which otherwise would produce nothing."

The canals in India known as the major works are of two types—the inundation canals which take in water whenever the river is in flood and which cannot, therefore, be useful during the dry period and the perennial canals of which the most important is the Sukkur Barrage Scheme with its dam about a mile wide across the Indus.

Apart from canal irrigation we have irrigation by wells and tanks. In India from the remotest times we have evidence of tanks being in use constructed by the co-operative labour of the village community, and generally filled by the monsoon run off. In the South, there are still in working order tanks built by the rulers of the day a thousand years ago, irrigating three to four thousand acres each. "Terrace" irrigation likewise prevails in parts of India, largely serving local needs. Irrigation by wells is to be found every where in the country. It is suited to the poverty of the cultivating classes, cheap to build and easy to work. The ingenuity of the Indian farmers shown in the various devices for raising well water can hardly be excelled ; and so long ago as 1893 Dr. Voelcker was tempted to observe, "Nothing in the agriculture of India impressed me so much as the excellence of the cultivation carried on by irrigation from well."[1] The preference of the Indian farmer for well water in parts of the country where both canals and well water are available led Voelcker to analyse the composition of specimens of well water and canal water. This analysis revealed the fact that, whilst canal water had only 15 grains of solid constituents to the gallon, well water had 82 grains, and was found to be rich in soda, nitrates, chlorides and sulphates. Well irrigation accounts for more than a quarter of the irrigated land in India.

From early days the importance of irrigation was recognised by the rulers of India. The construction of tanks and wells was regarded as an act of great social, if not religious, merit. The canals constructed in the Moghal period still bear evidence to the forethought of the rulers of the day. But whilst as early as 1880 the Famine Commission laid stress on the urgency of irrigation projects as the most effective measure of protection against famine, nothing substantial was done in the shape of irrigation works till camparatively recent times. Most of the capital resources raised by Governernment were spent on the development of railways. The importance of irrigation in India cannot be exaggerated.

[1] Report on Agriculture, p. 73.

The extension of irrigation to dry tracts, so far as major works are concerned, will entirely depend on planning by a sympathetic Government.

The history of irrigational schemes in India under British Rule is a story of planless and unco-ordinated efforts by a Government which has failed to realise the potentialities of offering irrigation facilities to a country where water has been said to be more valuable than land. As early as 1815 Lord Hastings recognised the value of irrigation works. In 1850, Dalhousie wrote in a minute : "Everywhere where I found lands of vast extent, fertile properties now lie comparatively waste, but wanting only water to convert them into plains of the richest cultivation." The years that followed were years of neglect, in spite of the urgent pleadings of the Famine Commission of 1880, and of the Irrigation Commission of 1901. To what extent the claims of irrigation were subordinated to a policy of capital expenditure on railways is evidenced by the fact that whilst the capital expenditure on irrigation and navigation works amounted to Rs. 150 crores in 1934-35, the expenditure on Railways amounted in the same year to Rs. 885 crores. If a well-planned irrigation policy had been laid down and followed from the beginning, this country would long ago have stepped out of her precarious dependence on the freaks of the monsoon.

The following table will show the progress of irrigation works between 1901 and 1941 :—

Types of Irrigation	Area under irrigation (in acres) 1901	Per-centage	Area under irrigation (in acres) 1941	Per-centage
By Canals Government	12,855,000	40	25,360,000	45.4
„ „ Private	1,963,000	6	4,471,000	8.1
„ Tanks	5,080,000	15	6,144,000	11.0
„ Wells	11,374,000	35	13,765,000	*24.7
„ Other sources	1,310,000	4	6,049,000	10.8
Total	**32,582,000**	**100**	**55,789,000**	**100**
Net area sown	**199,708,000**		**213,963,000**	

Power Resources : (a) Water power

The total water power resources of the world have been estimated on the lowest estimate at 500,000,000 H.P. The estimates for Belgian Congo are given at 90,000,000 H.P., the U.S.A. at 38,000,000 H.P. and for India at 27,000,000 H.P. The industrialisation of countries like Japan, Australia, Russia and China is perhaps the most noticeable aspect of electric power development. Electrification has also a highly desirable effect on industrial activity, in so far as it spreads out this activity over the entire area of the country and thus avoids the concentration of

population in over-grown cities. The hydro-electric installations in India today include the Tata Hydro-Electric Works which supply the city of Bombay and its textile industry which a capacity of 250.000 H.P. The Pykara Works in South India with a capacity for generating 120.000 H.P., the Sivasamudram Works which supply power to the Kolar Gold Fields, and the Mandi Works which supply power for lighting and domestic purposes to some of the towns in the Punjab are other works which can be noticed in this connection. Besides these, there are the Hydro-Electric Works connected with irrigation on the Upper Ganges Canal with a capacity of 48,000 H.P. The power generated by falls on the canal is connected through a grid which serves some of the towns of the United Provinces. In a country like India with limited supplies in the shape of oil or coal, the generation of cheap power for industrial purposes has the utmost importance. It is only a very insignificant portion of our total water power resources that has so far been tapped. The Agricultural Commission pointed out that electrical power has two uses of agricultural importance, namely, power for machinery including pumps, and as a means of obtaining supplies of synthetic nitrogen from the air.[1]

India has vast potentialities of hydro-electric power and may be said to be one of the leading countries of the world in its potential resources. To-day the industries in India absorb over a million H.P. of which only some 285,000 H.P. is electricity supplied from steam, oil or water. It is estimated on a conservative basis that the minimum flow of the 7 great rivers eastward from the Indus is capable of yielding not less than 3 million H.P. for every 1,000 feet of fall from the Himalayas, while the same applies to rivers in other parts of India. It is stated that a horse in form of electricity, steam and petrol works for 10 hours per day per man for all the 365 days in the year. Our country still depends mostly on man-power. The output of work is thus about 1/20th, as the work output of horse is ten times larger than that of men who at best work for 8 hours per day for 300 days in the year. Our backward position can be seen from the per capita consumption of electricity of various countries. A country like Mexico has a per capita electricity consumption of 120 units per year as against a little over 7 of India. Canada has the biggest consumption of 2000 units, while Sweden as second has 1100 units. England's consumption was 600 units in 1935, double that of 1926. Our consumption is one-third of even a backward country like Bulgaria.

[1] Report, p. 362.

By a systematic planning of her hydro-electric power resources, Sweden is now practically independent of foreign coal supplies. Similarly, countries like France, Italy, etc., with poor coal resources have developed their hydro-electric power to a very great extent. The most inspiring example is that of Soviet Russia whose power development increased seven times in a period of ten years. This tremendous development was due to Lenin's plan of electrification which he termed an important element of Socialism. The planned economic electrification on a huge scale has enabled Russia to become a highly industrialised country within a short period of less than two decades.

Whatever power resources are developed in India, they are by private companies which, due to their monopolistic position, have continued to exploit the consumers without any idea of developing these resources with a view to the general development of the country. "The monopolistic exploitation of consumers is generally the mainstay of the private companies, but even the bigger concerns have not shown much anxiety to develop the consumer demand by the gradual process of rate reduction. The private licensee companies have been paying huge dividends from year to year, and even in the recent depression they have managed to earn profits. Where dividends are declared, profits are put to reserves, or the cost-accounting is so manipulated as to show low profits or losses."[1] Cheap electric power can easily be made the basis of our industrial development Power resources are communal resources and must be fully developed, utilised and conserved with a view to the development of the country as a whole and not to swell the pockets of a few. The first step should be to nationalise them and develop them on a systematic plan which would help in the economic regeneration of our country.

As against the natural resources, like forests, etc. which are renewable, we have now to consider mineral resources of which there is in the earth's womb a limited quantity and the exploitation of which has, therefore, to be planned with an eye on the long run interest of the present as well as the future generations.

(b) Petroleum

After the separation of Burma India can claim very little in the shape of oil resources. Petroleum is found in limited quantities in Assam, Baluchistan and the Punjab. The total output from Assam is about 68,000,000 gallons. The League of Nations Year Book gives us

[1] B. P. Adarkar, "The Need for Beneficent Electricity Legislation in India" in Symposium on Problems of Power Supply in India, Special Number published by National Academy of Sciences, Allahabad, 1938, p. 61.

as India's share of production of crude petroleum 325,000 metric tons in 1940 as compared with 1,000,000 tons for Burma and a total production of 293,000,000 tons for the whole world in the same period. Oil production in India is confined to Potwar, Bassin, near Rawalpindi in the Punjab, where two fields are being operated by the Attock Oil Company, and the Upper Assam Oil Fields worked by the Assam Oil Company, a subsidiary of the Burma Oil Company. Our imports of oil in 1939-40 amounted to 463,000,000 gallons valued at 17 crores of rupees. The occurrence of natural gases in the Himalayan regions and observation of the general geological layout both suggest the existence of oil in the vast alluvial plains of North India. The geodetic researches of the Survey of India as well as a certain amount of prospecting work carried on by interested foreign companies have recently revealed possibilities about the existence of oil in the plains and foot hills of North India.[1]

(c) Coal

The coal resources of India have been estimated at 60,000,000,000 tons but four-fifths of these lie too deep for profitable working under present conditions.[2] India's production of coal has increased from 22,000,000 tons in 1931 to 30,000,000 tons in 1940, including the Indian States. The U.S.A. production in 1940 was 456,000,000 tons and even a small country like Belgium produces 26,000,000 tons. The consumption of coal per head in India works out at .07 ton as compared with 4.75 in the U.S.A., a figure which indicates the scope for the development of this industry in this country. The Raniganj and Jharia Fields in the districts of Burdwan are our primary sources of coal supply. The railways absorb over 30 per cent of our total production. According to the estimate of Dr. Fox the total reserve of Gondwana Coal alone is 60,000,000,000 tons of which 20,000,000,000 tons may be taken as occurring in workable seams. Of this, good quality coal (with ash not exceeding 16 per cent on a moisture-free basis) amounts only to about 5,000,000,000 tons, while good quality coking coal amounts to 15,000,000,000 tons. These coking coals are mainly to be obtained from Jharia, Giridih, Raniganj and Bokaro Fields. The Tertiary Coal Fields contain about 2,000,000,000 tons in Assam and 300,000,000 tons in other areas. Except for a few fields, namely, Jharia, Raniganj, Giridih and Bokaro, the data are as yet meagre ; and a maximum depth of 2000 feet has been taken into account for calculations relating to Jharia and

[1] *Science and Culture*, October, 1942.

[2] Of these only 5,000,000,000 tons are known to be of high grade, a third of this amount being considered suitable for conversion into coke for metallurgical purposes.

Raniganj Coal Fields. The total world reserves are now probably of the order of 7,000,000 million tons and India's share is only about 1 per cent of the total. At present we have very little knowledge regarding the actual amount of coal reserves in the various coal fields of India. More intensive and thorough survey work is necessary to get the correct estimate of our total coal reserves. Moreover, the existing methods of mining and extraction raise only 50 per cent of the coal. Improved methods of mining and extracting will maximise coal output and also increase the life of these coal fields.[1]

The following table is of some interest as showing the trend of world power production :—

Sources of Power	1913	1920	1925	1931
		(in percentage)		
Coal	88.5	82.1	75.5	66.5
Oils and gas	7.2	11.7	16.1	21.1
Water Power	4.3	6.2	8.4	12.4
Total	100	100	100	100

It is clear that coal is becoming less important and that there has been a rapid development of oil and water power during the last quarter of a century. To-day hydro-electric power accounts for only 1.25 per cent of the world's utilisation of energy. The potential water resources of the world are estimated at 500,000,000 H.P.

Industrial Ores: (a) Iron

India has perhaps the world's largest resources of high grade iron ore. The largest and richest deposits of iron are to be found in Bihar and Orissa. The minimum quantity of ore reserves, averaging not less than 60 per cent of iron, have been estimated as below for the Bihar and Orissa fields :

Districts	In millions of tons	
Singhbhum ..	1,047	(2,800 according to other estimates)
Keonjhar State ..	988	
Bonai State .	648	
Mayurbhanj State .	18	

Rich ores are to be found in Central Provinces and Madras. But they have not been worked, mainly due to the absence of coal in the vicinity. In the Rajhari Hills, in Drug District, C.P. which extend for 20 miles in a zigzag line, no less than 7½ million tons of iron ore are estimated as being on the surface. There may be a greater quantity below the surface. According to the Imperial Mineral Resources Bureau, there

[1] "Symposium on Coal in India," in *Science and Culture*, October, 1939.

are inexhaustible quantities of iron ore in the Salem and Nellore Districts of the Madras Presidency. The proximity of a good quality of coal to the iron deposits must be regarded as a principal factor making for the rapid development of the industry. The following table shows the growth in the production of iron ore :—[1]

In thousands of Metric tons

Year	1925	1928	1931	1934	1937	1939
Quantity	1,569	2,089	1,057	1,250	1,870	1,994

Apart from the existing demand in the country as evidenced by large imports from abroad in the past, the increasing industrialisation of the country makes it certain that the demand for iron and steel will rapidly increase as the years pass ; for this is one of the basic industries the development of which conditions the development of almost all other industries.

(b) Manganese

In the production of manganese India occupies a position second only to that of Russia. Our ores which average 50 per cent and more are richer in manganese content than the Russian ores whose average is about 45 per cent. The development of manganese mining is closely related to that of the steel industry ; and as India is not a large producer of steel at present most of our output of manganese is exported. Our manganese deposits are mostly to be found in the Central Provinces, Bombay, Mysore and Madras. Though we still retain our position in world output, the following table will indicate that we are gradually being out-stripped, in world production of manganese, by the increasing output of the U.S.S.R. :—

Years	World output in millions of tons	India's share percentage
1909-13	1.7	41
1914-18	1.6	34
1919-24	1.4	43
1924-28	2.8	33
1929-33	2.4	22
1934-38	2.2	17

The importance of manganese may be judged by the fact that it is extensively employed in the manufacture of steel products like gearing, rollers, roller-axels, railway bolts and power transmission chains which require high tensile and resistant strength. India is one of the main sources of manganese in the world ; but with the exception of a small amount used locally for making ferro-manganese, and as additions to the

[1] Statistical Year Book of the League of Nations, 1940-41.

blast furnace charge, it is all exported at ridiculously low prices. Indian manganese ore of 50 per cent grade fetched Rs.10 per ton at the pit's mouth whilst the price of ferro- manganese was £15 (Rs. 200) to the ton. No serious attempt has yet been made in India to utilise the manganese ore for the manufacture of ferro-manganese of good grade.

(c) Mica

Amongst the minerals used for industrial purposes must be included mica in which India is exceedingly rich. The enormous development of the electrical industry, which has taken place during the present century, would hardly have been possible but for the availability of mica. The chief areas of mica deposits in India are those of Hazari Baug in Bihar and Nellore in Madras. The mica belt of Bihar which supplies over 80 per cent of the world's requirements of better quality sheet mica covers a strip about 60 x 12 miles. According to Dr. Dunn, over 1½ lakh of people are employed in this industry.[1] The mica mines of Nellore cover a track of 60 x 10 miles. Due to the absence of a well established electrical industry most of our mica production has been exported. Over 90 per cent of mica splittings used in the manufacture of micanite, and made from lower quality mica, are supplied from India. The outbreak of the war affected the mica trade and brought a set back to the industry in the earlier stages, followed by a boom which led to reckless and uneconomic exploitation of this vital mineral. Public agitation resulted in the appointment of a committee by the Government of India. India can easily supply the requirements of the U.S.A. for mica. It is deplorable that a commodity so vital to defence and internal industrial needs, and of which India can boast 75 per cent of the total world production, should find itself in a condition of depression. Mica is absolutely indispensable in the production of electric machinery ; and so long as India is the chief source of 'block mica' which is mostly demanded by the electrical industry, the future of mica industry is quite hopeful. With the proper development of the electrical industry in our country, more mica will be consumed at home.

(d) Bauxite

Bauxite is an important source for aluminium. We have large resources in bauxite in different parts of the country. The Geological Survey of India has during recent years carried out a comprehensive survey of the extent of Indian bauxite deposists. In 1937, a commission of experts visited all the known bauxite deposits and investigated the

[1]Bulletin on Mica by Dr. J. A. Dunn, 'The Geological Survey of India.'

various sources of electrical power, with a view to the possibilities of aluminium production in India. We are told that a site was acquired in Travancore and orders placed for the necessary equipment in the shape of an aluminium smelter of an ultimate capacity of 5,000 tons per year. We have not heard further about this project.

New deposits of bauxite have been found in Jashpur State to the west of Chota-Nagpur Plateau. In Upar Ghat, in various places of the Khuria Highlands, e.g., Pandrapat, Thutopani and elsewhere through the state, both bauxite and aluminous laterite have been found to occur. All the laterite areas are not yet mapped out, and so there are possibilities of further discoveries. Besides, aluminium oxide, the deposits contain oxides of iron, calcium and magnesium. The percentage of aluminium oxide varies from 50 to 60. According to Mr. Dey, titaniferous bauxite of good quality is available in several parts of the state and can be successfully exploited. The main difficulty lies in the absence of facilities for cheap transport to the nearest railway stations.[1] Recent investigations carried out by the Geological Survey of India have revealed the presence of important deposits of bauxite in Shevaroy Hills in South India. The ore is of good quality and contains a high percentage of aluminium. The post-war expansion of industry will result in an increased demand of metals of all kinds, especially of aluminium, and India might well become the main producer of aluminium in the East.

Chemicals: (a) Sulphur ✓

Sulphur is a key chemical required in large quantities by every country. India imports about 27,000 tons from abroad every year. The presence of sulphur inside the country in almost all the provinces has been recorded by the Geological Survey, though in small quantities. In the absence, however, of large quantities of elementary sulphur deposits, there are considerable amounts of iron pyrites which may serve as the source of sulphur and sulphur compounds. An extensive deposit of iron pyrites has been recently reported to have been discovered near Simla. Analysis revealed an average 40 to 45 per cent of sulphur in the ore. It has been estimated that these deposits will suffice for 20 years consumption of sulphur in India at 30,000 tons per year. In addition, sulphur can be recovered from copper pyrites and gypsum. The amount of gypsum available in India is very large, about 50,000 tons being annually raised even at present. Sodium sulphate is another salt from which sulphur may be made available. Sodium sulphate occurs in the alkaline salts that

[1] *Science and Culture*, October 1942; Records of the Geological Survey of India, March, 1942.

collect on the " usar " lands of the U.P. and in " khari " salts from Bihar. It has been estimated that about 800,000 maunds of sodium sulphate can be obtained annually even at present with some organised efforts.

(b) Phosphates

Extensive deposits of natural phosphates have been found in Trichinopoly district and in Bihar. The Trichinopoly deposits may yield about 7 million tons. The soils of India have been found to be relatively deficient in phosphates ; and bones and bone-meal which are exported from India in quantities are another important source on which the new India of the future may count for the supply of phosphatic fertilisers.

(c) Alkalies

India annually imports large quantities of alkalies, as will be evident from the following table :—

Caustic Soda	1936-37	1937-38	1938-39
Quantity in cwts.	424,000	518,500	497,000
Value in rupees	3,657,000	4,281,000	4,307,000
Sodium Carbonate			
Quantity in cwts.	1,251,000	1,488,000	1,319,000
Value in rupees	5,089,000	5,958,000	6,144,000
Sodium Bicarbonate			
Quantity in cwts.	121,000	124,000	94,000
Value in rupees	593,000	560,000	484,000

In this country the most important natural source of sodium carbonate is " reh " or " kalar ", white alkaline efflorescence found on " Usar " lands in the Punjab and the U.P. The " Usar " Salts of the U.P. are particularly rich in sodium carbonate, while the quantities of sodium sulphate are larger in the Punjab. It has been calculated that about 1,800 square miles in the U.P. are covered with visible efflorescence, and that 7 million tons of crude soda could be obtained annually from the province. Large deposits of an earth which contains on an average 8 to 11 per cent of sodium carbonate have been found by Dr. Bhatnagar, Director of the Scientific Research Board, in one place alone near the Lakhsar Railway Station.

Miscellaneous

The occurrence of nickel—an important strategic metal—in India had not been suspected, but recently its discovery has been reported in the snowbound Himalayan regions near Nepal.

The President of the Geology Section of the Indian Science Congress, 1939, pointed out that there are distinct possibilities of the revival of certain

forgotten mineral industries like zinc, sulphur and diamond. There is good scope for re-starting trade in a few other gem stones like aqua marine stones, topaz, rock crystal, garnet and ruby. Many valuable minerals are sometimes irrevocably lost on account of ignorance. Thus beryl is exported by a mineral contractor in Jaipur State at £13 per ton which is really aqua-marine with a value of one shilling per gram.[1]

Concluding Remarks

When we have regard to all these resources which we have rapidly surveyed we would not be exaggerating if we maintain that the economic production of India to-day is far below its potentialities. No country is completely self-sufficient in mineral raw materials ; but so far as our mineral resources are concerned—and these are not renewable like forests —on the whole, our position is satisfactory both for war and peace time requirements. India's resources in minerals of strategic importance, minerals of munitions and defence armaments, base metals, alloys, fluxes, refractories and accessory minerals can be regarded as adequate, in several but not all of them : India is deficient in tin, tungsten, lead, zinc, nickel, graphite and liquid fuels. But in the basic metals, iron, manganese, aluminium and chromium, we are well supplied with a large excess in the case of the first three. Ancillary minerals such as asbestos, cement, fertilisers, clays, mica, sulphur, various salts, ores and other minerals of industrial utility are in sufficient quantities for our needs, and in some we have an exportable surplus.[2] Thus, it is not nature that has been niggardly in its gifts so far as this country is concerned. It is the human factor that has failed to take advantage of the many possibilities of economic development that have been placed at its disposal. If man has failed for whatever reasons in the past to take advantage of these gifts, he can in the future rise over the stepping stone of these very failures into a larger life, having acquired the art of utilising all these resources in the light of advancing knowledge. We must remember, however, that the minerals are the gifts of nature and belong to the community as a whole. Hence, their exploitation and utilisation must be in the interests of the whole nation, and not in the interests of a few who can increase their bank-balances by monopolies to mine them. The recent trend in the direction of thinking in provincial terms about problems connected with our mineral resources has to be guarded against, as such a policy might be definitely harmful to the larger interests of the country as a whole.

[1] 'Conservation of India's Mineral Wealth,' Indian Science Congress, Report, 1939.

[2] Vide, D. N. Wadia's Presidential Address at the Indian Science Congress at Calcutta, January 1943.

When we take a general view of all the resources that nature has placed at the disposal of our country, we cannot help envisaging the possibilities of the place of India in the economic world of the future. At least four of our minerals—mica, manganese ore, ilmenite and monazite are of great importance to the industries of the world, but unfortunately the greater part of the production of these minerals is exported in raw condition. It is possible to prepare micanite from mica splittings, extract thorium oxide and cerium from monazite, smelt manganese ore to ferro-manganese and manufacture titanium white from ilmenite. Moreover, there are possibilities for the development of 43 separate raw materials which would find increasing application with expansion of industries. There is scope for the increasing use of resources like barite, bauxite, chromite, clays, coal, feldspar, fuller's earth, glass sands, gypsum, kyanite, limestone, lithium, magnesite, manganese, mica, mineral pigments, monazite, nitrates, phosphates, potash, salt, strontium, sulphur, talc, titanium, tungsten and vanadium.[1] As Professor Behre observes, "India possesses large reserves of most of the important industrial minerals coal, iron, several of the ferro-alloys which make good steel, and the subsidiary minerals—in ample quantity to make her a powerful and reasonably self-sufficient industrial nation."[2]

If the development of the potentialities of all the areas of the world is a condition precedent to the establishment of world peace and friendly relations between the nations on a footing of equality of status, the one imperative duty that calls for thought and action on the part of all Indians is the duty of so planning the life of the people, as to make them no longer merely the sources of raw material and markets for the manufactured products of Europe, America and Japan. Theirs should be rather the duty of so planning their economic existence that all the inventions of the industrial revolution could be applied to their manifold resources for improving the standard of living of the people and for making the country self-sufficient within reasonable limits.

If we look at the nature of the economic development that has taken place so far in the life of the country, it might well be said that there has been a complete lack of policy in regard to such development.[3] The policy of discriminating protection, adumbrated by the Fiscal Commission 20 years ago, was never consistently adhered to in practice. There

[1] Vide, Dr. Dunn's Paper on "The Future Development of India's Mineral Resources," Indian Science Congress at Calcutta, January 1943.

[2] Op. cit.

[3] "It is indeed paradoxical that India's mineral industry, which forms the real foundation for the country's industrial expansion, should have received no assistance" of the type given to agriculture, forests and jute. Dr. Dunn, "Indian Mining," 1943, p. 244.

has neither been full and effective protection nor discrimination in favour of Indian industries. With the fear of offending British manufacturing interests, attention was confined to the protection of industries which could command and internal market, for which raw materials were available, and which did not directly compete with British industries except cotton textiles. The possibilities of new industries catering for a potential future market were never thought about. The future planning of the economic life of the country must be directed to the establishment of industries which will not only cater to the demand for consumers' goods, but also for capital goods, and provide a broader basis for our national economy. This implies a rational and planned mineral policy which would aim at the proper development of our mineral resources in a systematic manner, avoiding all wastage and properly conserving our resources, in the national interests. This, in its turn, would become the basis for a planned policy of fostering the key industries like iron and steel, the power industry and the heavy industries connected with chemicals and machinery, etc., with a view to a many-sided development of the life of our people.

CHAPTER III

SOCIAL ENVIRONMENT AND ECONOMIC LIFE

The doctrine familiarly known as the Economic Interpretation of history tells us that all the social and cultural phases of human evolution are ultimately determined by economic causes which in turn are dependent upon the physical and geographical environment. Marxian determinism as applied to all social phenomena is referred to as materialism, because in Marxism sufficient stress is not laid upon the influence of human ideals and ideas on social phenomena. In fact, the latter are themselves regarded as a reflection of the material and economic environment. Now there can be no doubt that human evolution in its early stages is dominated by factors like the nature of the soil, the climate and food supply and the resulting modes of occupation. Occupation in turn determines the size and organisation of the group, and conditions to a certain extent the feelings, customs and ideas of the people. Even the religious ideas of a people may be partly influenced by the physical environment. But with the advance of civilised life and the growth of the sciences, our insight into the laws of operation of the physical world gives us increasing control over the environment for the fulfilment of human purposes. Thus with our increasing insight into the social environment which includes the

entire system of institutions that surround us laws and customs, property and markets, marriage and forms of government we may achieve control over our environment, so that we can modify and adjust it to the fulfilment of a better and a happier life.

It must also be remembered that the activities of individuals as well as of nations are all closely related, and that social, political and economic institutions constantly act and interact one upon the other. If, on the one hand, social and religious ideas and institutions directly affect economic life, on the other hand, economic institutions modify social life and customs and even religious practices. If in the past hundred years political democracy has failed to fulfil the hopes which mankind entertained about it, it may be due partly to the fact that the political institutions associated with democracy worked in an economic and social environment that was not in harmony with democratic ideals. For the same reason a mere imitation of economic democracy, such as the U.S.S.R. has endeavoured to establish, may fail to make the fulness of life possible for humanity, if these institutions are not supplemented by a remodelled social and educational programme.

The social life of India has been marked by three institutions, namely, the self-sufficient village, the caste system and the joint family. The villagers were divided into castes and within the caste there were joint families. For centuries the people lived in this rigid economic and social system with the village as the unit. As Marx observes, "The structure of economic elements of the society remains unaffected by the storms in the political weather."[1] The rulers might have fought, and one conqueror might replace another, without affecting to any considerable extent the life of the villagers. Within the village there was an elaborate division of occupations as between the cultivating classes and the artisans and craftsmen. Among the craftsmen themselves there was an equally elaborate sub-division of occupation based upon caste. Each kind of work was hereditary, and it often happened that each artisan inherited the right to work for certain families. Life in early days was simple ; and the village, apart from the cultivator, had a carpenter, a potter, a washerman, a barber and a leather worker. Spinning and weaving in the villages were subsidiary occupations. Apart from the craftsmen there was a class of menials who did the work of scavenging, the outcastes, most of whom were the descendants of the aboriginal population of the country, who were absorbed into the Hindu society of these early days, instead of being exterminated.

[1] Capital, Vol. I, p. 379 (Everyman's Library).
For a classical description of the village communities, see ibid, pp. 377 *et seq.*

All the artisan families along with the Brahmins and the outcastes received their incomes, not in cash, but in kind, and not by the day but over periods of half a year or a year.

To complete the self-sufficiency of the village it usually happened that even the raw materials were close at hand. Wood growing within the village area could be used for buildings and implements. Cotton was available in many parts of the country. Most of the goods produced were consumed in the village ; and the surplus could be disposed of in the village fairs, held once a week by rotation in a group of villages. The hand workers derived their skill through the heritage of centuries. Their respective occupations had a religious sanction behind them. They were the gifts of the Gods, given to them for their living and to forsake such occupations would be a sacrilege.

Caste System

The caste system in turn was regarded as divinely ordained and was connected with the law of Karma, according to which a man's status in this life was determined by his actions in past lives. It is the most outstanding feature of Indian social life. Hindu society is divided to-day into more than a thousand castes and sub-castes. It is the caste, and not the individual, who counts in Hindu social organisation. Each caste is set apart by being engaged in a particular occupation, and is marked by customs which sometimes determine the minutest details of daily life. There are rigid rules which prescribe the limits within which social intercourse and marriage are permissible. Individual development was conditioned by the obligations imposed by the requirements of social solidarity. If an individual disobeys caste regulations he may be ostracised. He can only be readmitted after proper expiation. Otherwise, he and his family fall into the group of outcastes. The chief characteristic of a caste is endogamy. A man must marry a woman of the same caste as himself. This had one important economic result. It reinforced heredity of function, for function was made hereditary on both sides of the family.

Of the features of a caste society there are three which belong to caste as a whole as well as to all sub-castes. They are rules with regard to feeding, social intercourse and marriage. Every sub-caste usually possesses its own panchayat or caste council. Inter-dining and inter-drinking are restricted to the group which is endogamous. Though the caste and sub-caste were endogamous, village society throughout India "was characterised by the possession of a number of permanent officials and menials belonging to different castes, each having a definite status in the economic and civic life of the village."[1] So also in the towns the council of elders

[1] G. S. Ghurye, "Caste and Race in India," p. 23.

chosen from all castes and representing all the vocations in the locality looked after the affairs of the town, embodying in this way the principles of co-operation and social solidarity.

"The evolution of caste in India is the normal extension of ancient Aryan institutions, as determined by the conditions and the environment under which these institutions grew in India. The Hindus shared with the Greeks and Romans and with the Persians and Medes the same family organisation, the same clan and tribal organisations ; with their advent into India they found themselves in the position of conquerors confronted by a conquered population differing in colour and race. The sacerdotal caste among the conquerors strengthens its powers and extends its privileges, and thus commences its crystallisation of caste system in India—a system which is neither a purely economic organisation of occupations, nor a chaos of tribes and conflicting races, nor a simple hierarchy of classes, but a mixture of all three unified by the common inspiration which dominates all the groups in their functioning. Three broad determining conditions seem to have favoured the growth of this system : (1) Differences due to race and conquests and the unlikeness between different strata of the population due to the differentiation of social functions. In the America of our own times the universal feeling among the Whites that the Negroes must be held apart and subordinate as a race is a typical illustration of a caste institution. Many of the Negroes may be superior to the majority of the Whites ; but to dine with a Negro, to work or play by his side, or to associate with him in any relation in which the superiority of the White man cannot be asserted is held to be degrading. The extent to which differences in social functions may develop and foster a caste organisation is also witnessed in the development of the feudal system with its two well-defined castes, the Knightly and Servile, between whom marriage was impossible and intercourse of any kind scanty. In the case of India account must also be taken of the reaction of the theory on the system. When the idea that caste is natural had became prevalent and sanctified, it tended to create caste where it would not otherwise have existed. (2) A settled state of society is favourable, and change hostile, to the growth of caste, because it is necessary that functions should be continuous through several generations before the principle of inheritance can become fixed. This settled state of society prevailed in India for nearly a thousand years. (3) The low state of communication and enlightenment—the ignorance of the masses and the difficulties in the way of free intercourse between the different sections of society—confirmed the caste organisation. Caste is an organisation of the social mind on a biological principle ; and this means that functions should follow the line

of descent instead of adjusting themselves to individual capacity ; it means the subordination of reason to convenience, of freedom to order."[1]

Nevertheless, in all Hindu social institutions we find that the aim is the welfare of the whole to which the individual is subordinated. It is a functional organisation. The caste system at least in its origins was no exception to this. It had perhaps the eugenic value of preventing reckless inter-mixture. The caste system regulated the inequalities of economic society by the principle of hereditary functions. By prescribing for everyone his Dharma it regularized trade and profession, and endeavoured to free men from the obsession of greed and absorption in materialistic cares. The castes also served as trade unions. They protected the interests of their members by prohibiting outsiders into their trade and occupations, and also provided for united action against exploitation. The caste organisation was instrumental in preserving the continuity of Hindu Culture and Civilisation.

However, it was not a system which could accommodate within it the new forces set in operation by the impact of the West. From an economic point of view, it made the movement of labour and capital difficult, if not impossible, killed the spirit of enterprise and initiative by making functions hereditary and preventing social mobility. There was no scope for ability to show itself, as movement up the social ladder was impossible. The treatment of the untouchables which involved the degradation of human beings to a condition sometimes worse than slavery meant a tremendous wastage of human talents and potentialities. Economic development was hindered, if not made impossible, in such a social order which was designed for stability rather than progress.

Joint Family System

The joint family had also a religious significance, securing the salvation of the souls of the dead members of the family by the offering of proper sacrifices. The property of the joint family was intended for the spiritual benefit of the departed, as well as the temporal benefit of the living members of the family. The right of inheritance was determined largely by the spiritual benefit which would accrue to the dead members of the family. The institution of marriage had also a religious significance. Above all things it was necessary for the head of the family to have a son, for on such a son depended his salvation hereafter. Marriage was practically universal. For parents to have unmarried daughters was not only a disgrace but a dereliction of religious duty. Early marriages were customary. They were arranged by the parents while the children

[1] Wadia and Joshi, "The Wealth of India," 1925, pp. 123-25.

were young. Early marriages were also a necessity for the preservation of family harmony. It was not to be expected that a mother of forty would relinquish the management of a family to any young woman who might catch the fancy of a youth. If a girl was to spend her life as co-operating and contented member of a family, it was necessary that she should come to it early to be schooled in its traditions.

The joint family in India is a large group of relatives descending from a common ancestor. Marriage is usually forbidden amongst its members. The income and expenditure of such a family are joint. The individual in the joint family scarcely exists except as a member of a group. The relations of the members are governed not by secular law but by Hindu law and customary regulations. The joint family, moreover, is closely linked, as we have already said, with early marriages. So long as it endures there is no question of a young husband being unable to support his wife. It is not necessary for him to leave the house of his father and set up a separate house. The resources of the joint family give him and his wife economic security. No young man need wait till he is in a position to earn an independent living.

Family life of any type involves sacrifice and is founded on a policy of mutual give and take. But in the joint family where the wishes of all, young and old, males and females, have to be consulted and reconciled the sacrifice is infinitely greater. It is an association that guarantees the minimum of subsistence to every member, which supports the old and the infirm, provides for widows and orphans, and looks after the physical weaklings and the decrepit. It dispenses with institutions like the Poor Laws and the Work House.

From an economic point of view the joint family system meant co-operative production and co-operative consumption. This involved avoidance of economic wastage and conservation of economic resources. The joint family facilitated proper division of labour, where each contributed his quota of work according to his ability, and all shared in the fruits of the labour of each other. In brief, the joint family was a socialistic organisation in miniature.

Changes in Social Life: (a) Village

The village organisation as a self-sufficient unit was the first to disappear under the operation of new economic factors that were brought into play with the establishment of British Rule. The introduction and extension of roads and railways brought the villages into closer communication with the towns and widened the market. The old system of paying

in kind was replaced by one of payment in cash. Customary fixing of wages and payments disappeared in favour of a competitive method. The economic equilibrium of the village community and the self-supporting character of the village were upset. The relations between the villagers and the servants and craftsmen were also changed. The latter began to work for individual employers and no longer for the village as a whole. As the villages ceased to be isolated there was an increased mobility of labour. Labourers were attracted to the towns and cities, to commercial and industrial enterprises by the higher rates of pay which they could obtain. Even the artisans were no longer tied to the village of their birth or their ancestral occupation, but migrated to places where they obtained better prices for their wares or labour.

The social structure of the village was further affected by the activities of the state. As the Government began to undertake functions which were previously performed by the autonomous village, as special departments were created for education, excise and forests, the villagers who were once accustomed to govern themselves were gradually habituated to being governed from without and by others. The status of village functionaries was changed. They ceased to be answerable to the village communities, of which they had once been the representatives or servants. The system of land revenue administration also stressed the responsibility of the individual holder of land. Individual holdings were assessed separately, whereas formerly the village was assessed as a whole. The recognition under British Rule of the rights of private property in land was instrumental in transforming land into a marketable commodity which could be bought and sold. Transfers of land not only brought outsiders into the villages, but created a class of capitalist landlords who displaced the peasant proprietors. The age-old spirit of corporate life, fostered through economic and social give and take within the village, the idea of fraternity, was gone. This decay has given us the 'modern' village with its poverty and uncleanliness, bickerings and feuds, ignorance and superstition and, in a word, all the features of a callous demoralised collective existence.

Amongst the methods of communication that have influenced the life of the village must be mentioned the bus. "The bus is outstripping the train as a carrier of ferment into the peasant life of India. As the millions of Indian rats carry plague, so the thousands and thousands of buses always crammed with passengers and carrying them from the villages to the city and back, carry the virus of modernism."[1] By bringing the

[1] Basil Matthews, "India Reveals Herself," quoted by O'Malley in "Modern India and the West," 1941, p. 248.

villages into contact with the towns and with the social and political developments of the rest of the country, the bus has awakened the rural population into a new sense of life. Villagers use the bus to go to the cities where the circle of their interests and knowledge is widened, and they carry back new ideas to their homes. The cinema in a town acts as a powerful ferment in the villager's life and creates new interests and opens out a new world to him.

Whatever changes the bus may have brought into village life, it must not be forgotten that even to-day there are thousands of villages in India unconnected by a railway or a metalled road with the towns, and where the only modes of transport are human feet or the equally slow moving bullock cart. These villages are but very little affected by the changes in the socio-political life brought by British Rule into India. "Even now, despite the remarkable improvements in communications which have taken place, only a small proportion of the villages have railways or metalled roads within several miles of them, and the rest must be approached by rough cart tracks or winding pathways between the fields, of which the former alone can afford passage to bullock wagons and such other wheeled traffic as there may be during the season when floods do not interrupt them. Thus many millions of Indian villagers are, acording to Western standards, extremely isolated. Those that happen to be situated within a few miles of towns or railways or good roads are in a position to widen their outlook and acquaint themselves with larger happenings than those which village society provides, and can also market their surplus produce for consumption in urban India or abroad ; but the others are still self-sufficing both economically and culturally.... Throughout the greater part of the country the typical self-contained Indian village community, unmodified for centuries, still exists—an interesting and surprisingly intricate social organism, in many ways resembling the characteristic rural unit of which we read in histories of Medieval Europe, and containing its landholders and tenants and agricultural labourers, its priest and its religious mendicant, its moneylender, and a whole order of artisans—the carpenter, the blacksmith, and the weaver, the potter and the oil-presser—each with his clearly prescribed functions, hallowed by centuries of tradition."[1] The picture is not very different now, over a decade after this was written.

What changes broadcasting will bring into the social life of the village it is difficult to foresee. It may be used as an instrument for uplifting the life of the rural population and for the promotion of social

[1] India in 1930-31, p. 155.

health. Short and simple talks may be given in the languages of the different parts of the country on subjects like hygiene and sanitation, child welfare, crops and manuring, and the co-operative movement. Such subjects may create a new interest in the lives of the villagers. Information with regard to market prices of different kinds of crops may help the farmers in protecting themselves against the artifices of middlemen. Programmes of music and songs and dialogues on current topics may lessen the dull monotony of village life. In a country like India where the large majority of the adult population are unable to read and write, broadcasting has unlimited potentialities for dissipating the prevailing ignorance, and bringing light and life into the homes of the villagers.

(b) The Caste Organisation

The caste resembled the village in being a self-governing community. It had religious sanctions based on the belief that it was a divinely ordained institution. Whilst on the one hand it involves separatism, preventing the fusion of different classes in a homogeneous community, on the other hand, it is a bond of union among the members of each individual caste, setting up its own standards of life and conduct.

Long before the establishment of British Rule in India internal movements within the country had challenged the privileges of the Brahmins and the inequalities involved in the caste organisation. Reformers had denounced caste, stressed the equality of all men as worshippers of God, and taught that by faith and virtuous living all castes can be purified and attain salvation. Sects like the Lingayats which at one time rejected caste distinctions were brought later on under the domination of the caste system. There is also no doubt that the system acquired greater strength and rigidity in reaction to the pressure of Islam in territories under Muslim rule.

It has also to be remembered that the composition and occupations of castes were susceptible of change. Even the Laws of Manu recognised the possibility of a change of social status. "Much has been said about the caste system interfering with the economic life of the people. But it is a conventional observation in many cases much exaggerated. What is most prominent in the distribution of the workers in the occupations is inevitable economic necessity."[1] Neither sanctity of custom nor caste prescription debarred change of occupation within limits. Even in the 18th century we find Brahmins occupied as merchants, bankers or soldiers. The resort to an occupation different from the hereditary was tolerated even by the functional castes.

[1] Venkatasubbiah, "The Structural Basis of Indian Economy," 1940, p. 39.

Under the new conditions brought into existence by British Rule conveniences and material interests have been instrumental in the setting aside of caste rules. "The attractions of football have triumphed over the prejudice against leather."[1] Imported articles like biscuits and aerated drinks have been accepted without demur. An orthodox Brahmin who would not dream of taking food at the hands of a European takes it readily out of a tin made in a European factory.

The railways brought men and women belonging to all castes, high or low, into contact as fellow passengers, and so did the bus and the tram car. Water was taken from municipal pipes and street hydrants were used by Hindus and Moslems alike. And the extraordinary elasticity of practical Hinduism, like the elasticity of the Catholic Church in the Middle Ages, rose to the occasion in sanctioning practices which at one time would have compromised the salvation of the recalcitrant. The merits of pilgrimage would not be lost by a railway journey and the water tax was a penance which atoned for the use of municipal pipes. The dissection of human bodies for medical purposes was not prohibited by the Shastras, so the Brahmins declared, when the study of anatomical surgery was introduced in the Medical Colleges.

As the Census Report of 1931 puts it, "The conditions of modern life have broken down the idea that contact with certain castes involves pollution. The use of conveniences such as trains and trams necessitates a relaxation of the rule that certain castes pollute by touch." The decline of the old handicrafts and occupations due to competition from machine made goods has compelled large numbers from the villages, and even in villages, to take to occupations which have no reference to ancestral callings. The impact of new economic forces resulting from the contact with the West has affected the caste system. The caste system was an institution adapted to a static society. It did not give any stimulus to inventive genius and was doomed at the touch of the Industrial Revolution. For the machine does not respect persons whether Brahmins or Shudras. In factories, people of different castes work together. Urban life slowly but surely destroys rigid caste restrictions. The trams, trains and theatres cater for all those who have money to pay irrespective of their castes, and so in the cities and towns the high born Brahmin is found rubbing shoulders with the low born Shudra. In the markets, in the factories, in the tea shops, men belonging to all sorts of castes mingle together dissimiliar in ethnic origin and domicile. Intercourse with Europeans and political or economic conferences are bringing together men and women of

[1] O'Malley, op. cit. p. 366.

different castes. Economic necessity or ambition is leading even the higher castes to careers which 50 years ago would have been regarded with horror. The educational institutions through their hostels foster a closer association between boys and girls of different castes. The new social and cultural influences which have been brought to bear upon the life of the people during the past hundred years have violently shaken in the educated classes the foundations of the old rigid social order.

Sometimes the system of caste has been defended on the ground that it provides every one born in the caste with some work, that it institutes a sort of democracy within the caste, and secures the continuity of skill amongst the craftsmen by its hereditary character. On the other hand, it may be pointed out that the existence of the caste organisation has not prevented unemployment on a huge scale in the country, and that whatever skill and intelligence is inherited by the craftsmen, it has not enabled them to improve their standard of living.

Caste has brought about the undue suppression of large masses of men who belong to an inferior caste. Their spirits and minds have not found the opportunities for growth. The community which is caste-ridden is deprived of the intellectual and spiritual wealth which would otherwise have contributed to the uplift of humanity. It has been largely responsible for the perpetuation of foreign rule by emphasizing and promoting separatist and fissiparous tendencies. Even to-day it is common experience to hear the non-Brahmins and depressed classes declaring that they would prefer foreign domination to that of the high caste Hindus.

As for the influence of legislation on caste the only enactment that has a bearing on the caste system is the Caste Disabilities Removal Act 1850, which laid down that any law or usage which involved forfeiture of rights of property, or affected any right of inheritance by reason of any one being deprived of caste, cannot be forced in the courts of British India. The Act was intended to protect converts to Christianity or Islam.

The judicial system in India may be included amongst the factors which have brought about the weakening of caste rigidity. The law administered by the State refuses to recognise the self-constituted courts of the castes, the punishments which they inflict are regarded as extra-legal. The authority of the castes has frequently been set aside by ruling of the British Courts. Any one aggrieved by a decision of the caste tribunal can fight his case in a court of law.

Though of late there has been a tendency in certain urban areas towards strengthening the caste organisation by a parochial patriotism by

means of separate provision of houses and chawls, dispensaries, scholarships and hostels for one's caste people,[1] the impact of the new economic forces—especially the development of finance capitalism—is steadily though slowly leading to the substitution of caste by class. The machine has lifted a new class of people to wealth and power, and a bourgeoisie based upon economic power is replacing the old aristocracy based on birth.

There is an upward surge on the part of the lower castes. Social reforms, economic betterment and educational advance are the channels, through which attempts are made to raise the status of the lower castes. The movement for the uplift of the untouchables was initiated in the earlier days by the activities of philanthropic agencies like missionary societies and the Arya Samaj. The denial of their right to be classed as Hindus was modified by political considerations after the Reforms of 1919. It was also felt that if India was to be recognised as coming within the comity of civilised nations, Indians themselves should recognise their responsibilities for the uplift of the depressed classes. It was Gandhiji who galvanised the movement for the uplift of the Harijans by showing his readiness to fast to death first in 1932 and again in 1933. As the result of these fasts, and the massive constructive and educational work done under Gandhiji's inspiration, the untouchables were admitted to temples in a number of places in British India and Travancore, and other states issued proclamations, throwing temples open to all castes. Gandhiji regarded untouchability as a heinous crime against humanity. It had suppressed vast numbers of the Hindu community, who were not only as good as the rest, but who contributed to the social welfare by rendering essential services. He rejected authority, if it conflicted with sober reason or the dictates of the heart. He would not deny God by denying to a fifth of the Hindu race the right of association on an equal footing. If the inertia and apathy characteristic of a static social organisation are to-day disappearing, and the millions of India are awakened to a sense of the dignity and worth of human life, this transformation may largely be attributed to Gandhiji who has at one time offered his life for the liberation of those depressed millions from the yoke of a dead past which has hitherto weighed them down.

(c) The Joint Family

A hundred years ago families continuing undivided and having all things common for a number of generations were the rule and individual property the exception. As time passed partitions of joint families be-

[1] See Ghurye, op. cit. pp. 176-81.

came frequent, and it was sometimes stated that a family which had lasted for more than two generations was rare. It is now becoming increasingly common for families to be dissolved on the death of the father. The property is divided, the sons take the share to which they are entitled and set up separate establishments. Among the lower castes separation takes place even during the father's lifetime. This is said to be due to limited house accommodation. Very frequently the family dwelling place consists of a single room. Among the upper classes partition during the lifetime of the father is not so prevalent. The sons do not expect to have a private purse unless they have received a modern education and are imbued with Western ideas of individual rights. It has been also observed that the largest joint families are to be found in the most fertile parts of India, where rural density is the highest, and where the best results in agriculture can be achieved by pooling all available labour and resources.

Economic considerations are also said to induce the families of artisans to stick together. The joint family has preserved its vigour among the artisans more than among the agricultural castes. It has often happened that the members of a joint family, as a matter of convenience, continue to live in the ancestral home even if they are split up. The different families are as separate as the tenants of flats.

The disintegration of the joint family which is to-day confined to the cities and towns may be traced to a number of causes. The joint family is an institution which had its origin in times when the country was thinly populated, and cultivation was capable of expansion in response to the needs of growing family. The larger the numbers in a family, the greater the number of people available for work. The joint family was adapted to a static society in which the members of a family lived in the same place and followed the same occupation from generation to generation. During the last hundred years an increasing population has caused increasing pressure upon the soil. Owing to the small size of holdings sons of cultivators are forced into the adoption of different callings. Roads and railways facilitate migration. The able-bodied and the enterprising leave their homes to find work elsewhere and often settle down with their wives and children in the place of their employment.

Another factor which has contributed to the disintegration of the joint family is psychological. The growth of a spirit of individualism is hostile to an institution of which the corner-stone is co-operation and collectivism. Ever since the power of making a testament was recognised under British Rule the process of disintegration of the joint family has been accentuated. We may also include among the disruptive influences

friction between members of the same family, quarrels among women, troubles caused by idlers, and mismanagement of property by the head of the family. Owing to the intrusion of Western ideas and ways of life discordant with old Indian customs, the joint family has often become a house divided against itself. The older people in the family cling to old rituals and customs. The younger people discard them.

The joint family has been looked upon as an institution which discourages individual initiative and penalises the able and the industrious for the benefit of the idle. Inequality of earning capacity among the different members of the family due to the variety of careers which are open under present day conditions has been a source of disagreement. The right to have a separate income is frequently claimed and the old readiness to share individual earnings is gradually disappearing. Legislative enactment like the Gains of Learning Act of 1930 have weakened the collectivist basis of the joint family by providing that an individual member has a separate property. Such gains of learning were formerly treated as joint property. The Law also allows a daughter's son or sister's son to succeed to family funds. This is a concession which undermines the very foundations of the joint family which recognises succession only in the male line.

The old social institutions in India are in the melting pot. The village community as an isolated, autonomous, self-sufficient unit has almost disappeared. The caste organisation is being increasingly challenged by economic pressure on the one side, and on the other, by the force of the new ideas and ideals that contact with Western thought and modes of living has brought with it. The joint family though it has still a hold over the rural population is fast disappearing in the towns and cities.

India's Religious and Cultural Heritage

The culture and civilisation of any nation does not consist in purely mechanical improvements and the comforts of living ; it has been defined as a form of social organisation in which men and women, thrown into close relations, are enabled by their diversity of gifts to enrich and enlarge one another's lives. The rampart of mountains and forests which divides the Indian continent from the rest of the world has in part determined that India should have developed a culture of a distinctive type. The Aryan invaders who settled in India found the country a land of forests which afforded them shelter from the fierce heat of the sun, fuel for the sacrificial fire and pastures for their cattle. It was in these forests that Indian civilisation had its birth, and it was this environment that gave to the settlers a sense of friendliness with nature in its varying aspects—a

sense of harmony between the spirit of man and the spirit of the world which they never lost, when mighty kingdoms were established and wealthy cities displaced the primeval forests. "Even in the hey day of its material prosperity the heart of India ever looked back with adoration upon the early ideal of strenuous self-realisation, and the dignity of the simple life of the forest hermitage."[1]

But it was not merely the forests that influenced Indian culture and attitude to the problems of life. The Aryans who came to India must have spent their time among the Himalayan mountains. Their minds must have imbibed the unearthly majesty and beauty of the snow covered ridges. The individual might well have felt and realised his own littleness and helplessness, confronted by the grandeur and stupendousness of these huge upsurges out of the bowels of mother earth. The Aryans were a poetic and imaginative people who were inspired by their surroundings into those creative legends and allegories which still survive in Hindu Mythology. Indian thought has generally been contemplative ; it has never been enamoured of the material side of life. The Hindu never made the mistake of confusing appearance with reality. He had no great confidence in human capacity, realising his own finitude in marked contrast to the infinitely towering mountains and the rushing torrents and the dense forests. Exposed to calamities on an enormous scale in the shape of storms and earthquakes, floods and deluges of rain, and excessive draughts resulting in famines and pestilences, exposed also to the attacks of diseases and of wild animals, he was dominated by his surroundings and had "no desire to challenge these forces, to struggle with them, to acquire a mastery over them by study and analysis and concentration on details."

The Upanishads were largely the fruits of the Aryan ideas of Karma and transmigration. "The innocent joy in life which greets us in the hymns of the Rig Veda was replaced by the belief in later days that every individual after death enters again upon a new existence in which he gathers the fruits of merit earlier acquired and has to endure the consequences of sin previously committed." The Upanishads addressed themselves to a philosophical explanation of Karma, and offered a way of escape from the relentless judgment of rebirth. Man has to escape the necessity of rebirths by a knowledge and contemplation of the Supreme Soul, "the one without a second."

But this fundamental unity of creation was not simply a subject of philosophical speculation. It was the mission of India, as reflected in the

[1] Tagore, Sadhana, pp. 4-5.

life of the Rishis, to realise this harmony in feeling and action. "India intuitively felt that the essential fact of this world has a vital meaning for us ; we have to be fully alive to it and establish a conscious relation with it, not merely impelled by scientific curiosity or greed of material advantage, but realising it in the spirit of sympathy, with a large feeling of joy and peace.[1]

When the Aryans conquered India they destroyed much of the aboriginal religion and culture. No civilisation, however, can be wholly pure. When we turn from speculation to religious belief, we find the Hindu conquerors absorbing into their pantheon an assortment of Gods many of whom belonged to the indigenous race. Brahma, Shiva and Vishnu, Brahma the principle and source of life, Vishnu the preserver, and Shiva the destroyer became the objects of worship, and many multitudes of gods and goddesses. But about the average Indian even to-day there is a curious air of abstraction, a consciousness of the endless, timeless nature of Reality, and of the vanity of all things else. The Hindu subordinated the material to the spiritual. To him, religion was supreme, not politics. He valued the eternal in preference to the temporal. The power of religion is revealed in every sphere of his daily life. Is it then surprising that, "In our century it is a saint rather than a statesman who has for the first time in history unified all India ?"[2]

As this thought pattern of the early Aryans was modified by contact with the conquered races, so their social pattern in contact with the conquered population was developed into a caste system which with the lapse of time multiplied into hundreds of castes, tied down to rigid rules about inter-dining and inter-marriage. The sanctions of the later religious organisation were brought to bear on the perpetuation of the caste system. Men are born into a particular caste, and are unalterably superior or inferior to their neighbours. The caste into which a man is born has been determined by his behaviour in a previous birth, and his only hope of a better lot in the next incarnation lies in the humble acceptance of his position and the strict observance of the rules of his caste.

"The joy of existence and realisation of life which marked the profounder teachings of the Rishis were subordinated to a doctrine of redemption which started from an assertion of the evil and pain inherent in human life." Life involves misery from which there is no escape as long as consciousness persists. The great majority of the people

[1] Tagore, Sadhana, p. 7.
[2] Will Durant, "The Story of Civilisation," 1935, p. 503.

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found comfort in a teaching which told them that peace could only be obtained through the extirpation of desire. "The joy of life and work, of the harvest song that leads humanity through increased production to the kingdom of God, the message of work that had been preached by the Rishis of earlier days, was now replaced by a teaching that emphasised the extinction of desires and the suppression of wants. And though Buddhism is now no longer in India the force that it once was, it has left its indelible impress on the mind of the people, taking away all joy out of work, making life a hindrance to spiritual progress, inspiring in the masses a sense of resignation to evil, instead of that spirit of discontent which looks on every evil as a challenge to man to be overcome by his efforts."[1] It is not easy to imagine a more effective method of persuading the down-trodden and oppressed and poverty-stricken to remain content with their lot than the Hindu conviction of nature's mastery over man, and of the working of inexorable laws which determine the fleeting fortunes and misfortunes of human life beyond the control of man.

The caste system was the most fundamental fact in the history and life of the Indian people. It brought together in a single social organisation peoples and races, speaking languages twice as many as those of Europe, holding the most diversified religious beliefs, and representing every stage of intellectual development. The caste system was the outcome of a spirit of toleration, that experimented in evolving a social unity within which all the different races could be held together, whilst they were left free to maintain their differences. In America and Australia the aboriginal and indigenous races were exterminated till only a few hundred thousand are left to-day to serve as museum specimens for anthropological study. In India the aboriginals were absorbed into the social organisation of the conquerors. What the caste organisation overlooked was that "in human beings differences are not like the physical barriers of mountains, fixed for ever—they are fluid with life's flow . . . In trying to avoid collisions, India set up boundaries of immovable walls, thus giving to her numerous races the negative benefit of peace and order, but not the positive opportunity of expansion and movement."[2] The caste system was the crystallised expression of an outlook on life that saw no value or worth in striving, in effort, in the desire to make oneself better and happier.

To sum up, Indian Civilisation is an "expression of a 'medieval' people to whom religion is profounder than science, if only because religion accepts at the outset the eternity of human ignorance and the vanity of

[1] Wadia and Joshi, op. cit. pp. 178-9.
[2] Tagore, Nationalism, pp. 116-7.

human power. In this piety lie the weakness and the strength of the Hindu : his superstition and his gentleness, his introversion and his insight, his backwardness and his depth, his weakness in war and his achievement in art. Doubtless his climate affected his religion, and co-operated with it to enfeeble him ; therefore he yielded with fatalistic resignation to the Huns, the Moslems and the Europeans."[1]

Clash of Cultures

India after the establishment of British Rule has become the meeting place of the East and the West. The changes—political, social and economic—which occurred in the second half of the last century brought a new India into existence. An immense increase of population, the development of commerce, the introduction of means of rapid communication—the railways, the postal and telegraph systems- the growth of printing and newspapers, broke down the geographical barriers which had formerly kept the people of the country apart and contributed to the consciousness of a common national life and destiny. The facilities of communication led to movements of populations and affected the organisation of village life. The spirit of nationalism was fostered by bodies like the Poona Sarvajanik Sabha and the Indian National Congress. Indian youth increasingly imbibed English thought through the channel of English literature in educational institutions. The spread of education led to a revival of pride in the ancient culture of the land. The victory of Japan over Russia was welcomed as the victory of an Eastern over a Western power, and gave a new impetus to the demand for freedom from subjection to British Rule.

But the West that came to India in the early years of the 19th century was different from the West as it appeared to Indians in the later years of the 19th century and the last forty years of the present century. The West that spoke to India through the works of Shelley, Keats and Wordsworth, through Mazzini and Garibaldi was a West that believed in dreams of brotherhood and freedom. The West as it strikes the educated Indian to-day is a West that pins its faith on machinery and armaments, a West that is in danger of losing its finer traditions in the worship of wealth and power.

When we talk about India as the meeting place of East and West, let us also remember that ours is a country with a culture that is neither uniform nor evenly distributed. Western culture has to-day spread only to a section of the people—that section in the towns and cities who can read and write English. The India that lives in the villages has been far

[1] Durant, *op. cit.* pp. 611-12.

less affected by Western influences. The motor bus is breaking down the isolation of the villages ; the economic life of the village has been affected by Western methods of administration. by the use of machine made commodities, by a price economy that has linked the village to markets in and outside the country. But otherwise the traditional life of the village rolls on as it did generations ago. A new life, however, is coming to the villages through a hundred different channels of which it is difficult to take account. The villages are increasingly linked together. not only through the railways and the telegraphs and the bus, but also through the cinema and the radio. The commercial traveller anxious for business, the college student returning to his village, the political adventurer anxious for his vote, the great leader collecting the masses in thousands, bring a new life blood full of promise.

But how will this promise eventuate ? The contrast between the East and the West is not a contrast between the pursuit of the spiritual and the worship of the material. Europe is not simply occupied with material things. The ideals of human activity—the search for truth and beauty and goodness are not confined to any one continent or any one race. In the West, as in the East, man is pouring forth his life for knowledge and for the service of humanity. We, on the other hand, in the East, bound by fetters of the past, revelling in a ritualism which worships the external form instead of the spirit that is behind the form, we who believe that sin can be washed away by the waters of the Ganges, we are materialistic in our outlook to this extent. Man is essentially a spiritual animal and can never remain solely material. The contrast between the East and the West is rather a contrast between an approach to life in institutions that has subordinated the individual to the group in the larger interests of the group, denying to the individual in some ways the opportunities for a fuller life, and an approach to life which in the name of the rights of personality and freedom for the individual has brought chaos in the field of economics, and expressed itself in the narrower forms of organised selfishness.

Nowhere does this contrast find more typical expression than in the institution of marriage—the Hindu ideal of marriage has no regard for individual taste or inclination. Hindu society found itself in an environment where the encroachment of alien cultures had been a constant danger to be guarded against ; marriage had to be rescued from the control of the heart ; selection by " love " had to be strictly regulated for the sake of the progeny. Even in Europe we see glimpses of such considerations in the marriages between royal dynasties. In the West, on the other hand,

the greed of man has sought to use woman for the purposes of his individual enjoyment ; marriage has lost that social significance which once belonged to it. The process of urbanisation has brought with it the separation of the individual from the group into which he was born, and his removal from its supervision. New ideologies have destroyed the sacramental character of the marriage ceremony and the justification of sex relations only in terms of progeny.

It is this contrast in attitudes to which India has been a witness during the last few decades. We need not rake up the history of the past. But the immediate results of the shrinking of the earth's proportions by scientific knowledge and its applications lie in the increased opportunities offered to the stronger races to exploit the weaker ones by the organised mechanism of power. The weaker ones have in turn cultivated as a measure of self-defence an attitude of national self-assertion which aggravates misunderstanding and promotes conflicts.

We have described the changes in our social institutions. Elsewhere we have dealt with economic life under the British. By her clash and contact with the West, India has perhaps reinvigorated her culture. Spiritually, she fights hard against the religious superstitions which are rapidly being dissolved by the acid touch of modern science. In political sphere, she has achieved a unity never possessed before. And economically, she is trying to imitate the West by developing her industries. But shall we in India allow the Western type of Industrial Revolution to breed uncontrolled capitalism with its concomitants of millionaires and paupers, of palatial buildings and slums—which have already begun to appear—which negate the whole of our cultural heritage ? Or shall we imbibe the best in the West and properly adapt it without losing the spirit of our ancient culture ? May we not in the midst of these conflicts hope for a better order in which what the East will value and teach humanity—or learn by co-operation with the West—that if it is the destiny of man that he should achieve a material salvation, it is also true that this material salvation is possible by man's own powers, and that such a salvation may be worse than a spiritual damnation. Blessed indeed are those that inherit the earth, but the holy alone can be happy.

The hope for a fusion of cultures and institutions rests on the fact that whatever influence Western institutions have exercised in India has been exercised largely on the upper strata of society—the men living in the cities, the Rajas and Nawabs and the bourgeoisie of the towns, men in top hats and the women in short skirts and slacks, the cinema goers and the cabaret frequenters. The heart of India still beats strong in the

villages—Rulers may come and go—a new Delhi may replace an old Delhi as the seat of power. The salt tax may take the place of *jezia*. They are the changing phases of the social environment much like the changing phases of the climate and the rains. The hunger and thirst for truth, the sense of the infinite still reconciles the villager to these changing phases. This is the foundation of our hope that in the emergence of a better world order India will make its own distinctive contribution.

If a free India has to plan a new economic order, such an economic order aiming at the social control of its agriculture and industries in the general interest of the people cannot just be grafted upon the old social institutions. The new economic order must be built on the foundation of the revitalised village as a coherent economic unit, not necessarily self-sufficing, but duly linked up with the rest. In the future order that we envisage, caste and religious institutions will be regarded as irrelevant in the context of civic and economic pursuits ; for, after all, the incidence of economic changes is equal for all ; economic forces—markets and prices, banking and currency policy, etc.,—make no distinction between a Hindu and a Moslem, a Parsi and a Christian. The communal differences are, in fact, soluble only in terms of the organic unity of the economic life we are striving for. This will require a new type of family, based no longer upon the social inferiority of women, but resting on the equality of relations between the sexes, recognising the equal status of women with men, making possible not only health and happiness within the individual family, but securing the welfare of the younger generation by providing an atmosphere of friendship and affection between parents, and by recognising the ' right of the unborn to be well-born.' Such an economic order can no more tolerate a caste organisation, however deeply rooted it may be in the past. It will have to rest for its security and permanency on a new social order, not a classless society in which there will be no differentiation of functions and division of labour, but a society in which differentiation of functions will rest, not on wealth or birth or property, but on merit and virtue. It will be a society in which class differences will depend not on rank and status, nor on descent, nor on a dignity that is separatist in its results, but on ability to contribute to social well-being. Every honest occupation will be regarded as worthy of respect. No work will be regarded as clean or unclean in itself. Equality of opportunity will enable the individual irrespective of his caste or creed to find his proper level, and co-operation between the different classes will make it possible for all to grow into the fulness of life. Such an order will aim at an organic whole of institutions in which the spirit of service and sacrifice which marked the earlier social

organisation of India at its best will be preserved, whilst its adjuncts and excrescences which have impeded the progress of a happy and healthy national life will have disappeared.

CHAPTER IV

THE HUMAN FACTOR

The wealth of a country depends ultimately on two factors, namely, the gifts of nature, including the soil, the climate, the mineral resources and the geographical location, and on the human factor, the quantity and quality of man-power or the working population. As man advances in civilisation, the influence of the environment plays a diminishing part as compared with the human factor. As society progresses, man becomes less and less dependent on the environment which he is able to modify and control by scientific knowledge. With the best natural advantages a country will make a poor show in the production of wealth, if the people are lacking in the ability to make the best possible use of the resources at their disposal.

Modern theories of population start with Malthus who wrote his Essay on the Principle of Population in 1798. Studies of animal life had already drawn attention to the tendency for animals to increase beyond the means of subsistence provided by Nature. Moreover, in Malthus' times the mechanised methods of agriculture which have given rise to the phenomenal increase in production of foodstuffs were unknown. Further the enormous increase in production of wealth, which the Industrial Revolution made possible in the second half of the 19th century, was still in the making. Again, the maladministration of the Poor Laws in England was attended in Malthus' times by an increase of population among the poorer classes. Finally on the virgin soil of America the descendants of the Pilgrim Fathers were doubling themselves in number every 25 years. These were the conditions under which Malthus enunciated his theory that there is a tendency for population in every country to increase faster than the means of subsistence. Such a tendency is attended by the operation of positive checks like increase in the death rate by wars, famines, plagues and diseases in general. If such consequences are to be averted, moral restraint and the operation of prudential considerations should be brought into play by the spread of education.

Population theories change with the spirit of the times, and are largely determined by the environmental conditions under which they are

formulated. The hundred years that followed the enunciation of the Law of Population by Malthus witnessed a phenomenal increase in population in Europe, accompanied by a constantly improving standard in comfort. Marx in the middle of the last century based his theory of population on capital accumulation and institutional influences. 'Over-population', according to him, is due not to limited productive capacity but to the maladministration of income peculiar to capitalism. In the years that followed the last World War observers of social phenomena called attention to the unprecedentedly precipitate decline in birth rates in Western Europe and the U.S.A. Unless, they said, there was an increase in net fertility, within a few decades there would be a stationary population. Not only that, but now the bogey of over-population is replaced by that of 'depopulation' as there is a tendency towards a declining population. This has been contrasted with the rapidly increasing population in the Asiatic countries, and the White people are warned of the danger of a stationary or a declining population.[1]

The Malthusian theory in terms of numbers and subsistence is no longer of any practical interest, except in countries like our own where population and production are in equilibrium, if at all, at a point which may be called a point of bare subsistence. The optimum theory of population which has been formulated more recently tells us that at any given time or under any given particular conditions, other things being equal, there is what may be called a point of maximum returns attained when the population is so exactly fitted to the circumstances, that returns would be less if it were either less or more than it is. This population has been called the optimum population. The optimum varies from time to time as conditions determining production vary.

As Myrdal has pointed out, the optimum theory takes the average level of living as a function of population density. But nothing in it suggests that the optimum could not, for large spaces, have a very level course. "The theory is a speculative figment of the mind without much connection with this world; it does not give any guiding rule for the practical and political judgment of reality."[2]

An adequate population theory in our times will recognise, in the

[1] Thus the Duke of Devonshire, Under-Secretary of State for the Dominions stated in 1938: "We are all busy about armaments, but battleships, tanks, guns and rifles are no good unless we have the men, and if we continue to be faced with the decline that is going on among the English speaking peoples of the Empire, then armaments can never be any good, and we shall never be able to populate this immense heritage of ours." Quoted in 'Control of Life' by H. Sutherland, 1944, p. 32.

[2] "Population—A Problem for Democracy," 1940, pp. 143-4.

first place, that the population problem in the years immediately before us will be one of distribution rather than of production. In the West it will be concerned with the fate of vast industrial populations which may be cut off from world markets by the industrialisation of the so-called backward countries. Above all, the student of population trends in the future will be faced with the question whether each nation is entitled to a standard of living based on the richness of its own natural resources, or whether moral sentiment will require a general levelling of the standards of living by a sharing of the world's resources, and by a policy of unrestricted migration to all parts of the earth. The pooling of the world's resources in a free market to which all nations will have access, such as the Atlantic Charter contemplates, will not solve the economic problems connected with population, unless the hitherto sparsely populated parts of the earth cease to be regarded as preserves for the accommodation of the Whites. Thus, the population problem raises the question of social policy as a whole in which ethical aspects are bound to play a very important rôle.

Growth and Density

The population of India must have been practically stationary over long periods, in the past. This stability could not have been the result of positive checks like plague, war and famine, regularly at work and pruning off the surplus growth. The establishment under British rule in the beginning of the 19th century of a degree of security that was not previously experienced, as well as the economic disequilibrium that ensued, might have contributed to the growth of the population. A larger population could be supported at the prevailing standard by an extension of cultivation to unoccupied land. Sir William Hunter has stated that there was no sign of over-population in India before 1840. Support is found for this belief in the fact that there was competition for cultivation rather than for land. After 1840, the value of land has steadily increased. It is even maintained that the pressure of population has raised the value of land in many parts above the economic level, so that landowners obtain profits, not from the produce of the soil, but from the cultivators' earnings from other occupations. The fact that an increase in the cropped area has, for several decades, occurred only when new irrigation works have been constructed, is significant as suggesting that under present conditions and methods there is little scope for the extension of cultivation in response to a growing population. We shall have opportunities later on for pointing out how the increasing pressure of population on the land has given rise

to some of the most serious problems connected with agriculture, fragmentation and subdivision, growing indebtedness, land hunger and landless labour.

The following table indicates the growth in population from 1881:—

Year	In millions	Reasons for increase in millions: Increase due to: Inclusion of new areas	Improvement of method	Real increase of population	Total	Rate percent of real increase
1872	208	—	—	—	—	—
1881	256	33.0	12.0	3.0	48.0	1.5
1891	285	5.7	3.5	24.3	33.5	9.6
1901	294	2.7	0.2	4.1	7.0	1.4
1911	315	1.8	—	18.7	20.5	6.4
1921	318	0.1	—	3.7	3.8	1.2
1931	338[1]	—	—	34.0	34.0	10.6
1941	389[1]	—	—	51.0	51.0	15.1

The increase in the period 1921-31 in the population of India was regarded by some people as startling. The increase in 1931-41 was even greater, with an addition of 50 million to our population, a total greater than the existing population of France. The total population of the world amounted to 1,850,000,000 in 1931. The population of the world in 1940 has been estimated at 2,170,000,000 ; that is, it increased in 9 years by 17 per cent. In Western Europe the rate of increase has been small. In Japan, on the other hand, the population increased from 42,000,000 in 1896 to 78,000.000 in 1920 and to 105,000,000 in 1940. Nowhere, however, do we find such variations in the rate of increase between one decade and another as have occurred in the population growth of India.

Writing about the increase in population in 1931 the Census Report observed : " The actual figure of the increase alone is little under 34 million, a figure approaching equality with that of the total population of France or Italy, and appreciably greater than that of such important European powers as Poland and Spain. The population now even exceeds the latest estimate of the population of China, so that India now heads the list of all countries in the world in the number of her inhabitants. This increase, however, is from most points of view a cause for alarm rather than satisfaction."[2]

The Malthusian theory, which was definitely pessimistic in its outlook seemed to be an inaccurate analysis of population growth, in the

[1]These figures are exclusive of Burma.
[2] Census Report, 1931, Vol. I, Part 1, p. 29.

light of the hundred years' history of rapid development in numbers in the West accompanied by improving standards of life. But in India the history of the last hundred years has illustrated the operation of the positive checks, clearly indicating the growing pressure of population on the means of subsistence. Attempts have been made to estimate population pressure by reference to the cultivated area ; 2.5 acres per capita are said to represent the minimum size of cultivated land necessary for keeping the individual in health and efficiency.[1] Keeping in mind the fact that in many parts of India two crops are raised during the year, and that food requirements may be less in the East than in the colder countries of the West, we may safely assume that 5 acres is the minimum size of an agricultural holding necessary for the subsistence of a family of five souls. Judged by this standard of one acre of cropped land per capita the following table bears ample evidence of over-population : —[2]

Province	Population in millions	Crop area in millions of acres	Crop area per capita in acres	Co-efficient of over-population
Bengal	50.1	23	0.47	2.1
Bihar and Orissa	37.6	24	0.63	1.58
United Provinces	48.4	36	0.74	1.35
Madras	46.7	34	0.74	1.35
Punjab	23.5	26	1.12	0.89
C.P.	15.5	24.5	1.58	0.63
Bombay	21.9	33	1.61	0.62

The situation gives us greater concern when we remember that the population in these provinces has increased faster during the last ten years than the cropped area.

It must be remembered, however, that food supply alone in relation to population cannot give us an adequate co-efficient of over-population. We must measure the total income of the community. In highly industrialised countries, the total production indices in relation to the numbers can give us an adequate idea of population conditions. In the absence of a census of production in India, this line of investigation is not feasible. However, in a country like ours, where the vast majority of people are agriculturists, and where 80% of the income is derived from agricultural produce, the measurement of the co-efficient of over-population by reference to crop area is a useful indication of the trend of our population.

[1] Food and Population : Proceedings of the World Population Conference, p. 89.

[2] R. Mukerjee, "Food Planning for 400 Million," 1938, p. 2.

Positive Checks

That the positive checks are still operating in India in the shape of starvation and pestilences is not a political exaggeration but can be amply borne out by figures.

Period	Frequency of Famines Number	Estimated mortality
1775-1800	3	—
1800-1825	5	1,000,000
1826-1850	2	400,000
1851-1875	6	5,000,000
1876-1900	18	26,000,000

Period	Area and Population Affected		
	Area in square miles	Population millions	No. employed on relief works
1888-1889	3,500	1	64,000
1891-1892	50,000	7	240,000
1896-1897	225,000	62	3,300,000
1899-1900	189,000	28	4,600,000

These figures would indicate that there has been a gradual increase in the number of people with low vitality, and consequent liability to elimination by starvation. It is true that famines after 1900 have lost their old rigour, that famines of the old type in which millions died of starvation have ceased to work out their disastrous consequences. "Famines are no longer of frequent occurrence, or devastating in their effects; when they occur, the measures taken to alleviate distress are more of the nature of poor relief, such as the provision of food for a small minority and of employment for others."[1] This improvement in the situation is largely the result of facilities in communication. But there is scarcely a year in which scarcity conditions do not occur in some parts of the country; and such severe droughts as do occur from time to time are followed by outbreaks of diseases, due to unwholesome and insufficient food. No careful inquiry has yet been undertaken into the mortality rates of deficiency diseases as well as diseases like dysentry, fever and diarrhoea in areas that suffer from scarcity. The report of the Famine Commission of 1901 observed that mortality due to privation is followed by a further rise in mortality due to cholera, diarrhoea and fever, the obvious result of a weakening of the power of resistance against such attacks. Famines, however, are a natural calamity. They are not necessarily due to over-population. Even a small community may suffer from epidemics and diseases if sanitation is bad.

[1] O'Malley, op. cit. p. 83.

Turning in the next place to epidemics as a positive check to the growth of population we have the following estimates of mortality due to bubonic plague during 1896-1920 :—

Period	All-India Recorded Mortality	Actual Estimates
1896-1901	500,000	750,000
1901-1911	6,500,000	8,775,000
1911-1921	3,022,000	3,929,000

Influenza in 1918 and 1919 took as many lives as bubonic plague :—

Province	Estimated deaths in 1918	Death rate per mille
Ajmere-Merwara	29,835	59.5
Assam	111,340	18.6
Bengal	386,572	8.5
Bihar and Orissa	709,976	20.5
Bombay	1,059,497	54.9
Burma	137,491	13.9
C.P. and Berar	924,949	66.4
Coorg	2,014	11.5
Delhi	23,612	56.6
Madras	683,169	16.7
N.W.F. Province	89,035	43.6
Punjab	898,948	45.4
United Provinces	2,034,257	43.4
Total	7,089,695	
Total estimated for 1919	1,330,000	
Total for 1918 and 1919	8,419,695	

Messrs. Russell and Raja have estimated the mortality from influenza between 1918 and 1919 at 14,000,000.[1] This is a sounder estimate when we remember that the estimated figures in the above table refer to the areas under registration, which contain only three-fourths of the population of India.

But the operation of the Malthusian check is not merely confined to the occurrence of epidemics like bubonic plague and influenza. Even an ordinary preventible disease like malaria, of which Europe has been freed during the last 50 years by the applications of medical research, takes a larger toll of lives in India than bubonic plague as will appear from the following table :—

Province	1901-1911 Deaths from		1911-1921 Deaths from	
	Malaria	Plague	Malaria	Plague
Assam	161,762	—	207,932	—
Bengal	1,971,221	51,012	2,091,289	6,663
Bihar and Orissa	1,432,196	545,450	1,590,788	320,137

[1] Quoted by R. Mukerjee, op. cited. p. 37.

Province	1901-1911 Deaths from		1911-1921 Deaths from	
	Malaria	Plague	Malaria	Plague
Bombay	516,993	1,111,441	725,162	563,897
C.P. and Berar	399,082	222,652	690,264	180,180
Madras	584,152	68,873	742,061	105,332
Punjab	900,752	2,025,220	889,951	663,876
U.P.	2,677,171	1,315,252	2,780,391	1,112,380
Total	8,643,329	5,339,900	9,717,838	2,922,465
Total from plague (1901-1921)	8,262,365			
Total from malaria (1901-1921)	18,361,167[1]			

Thus, it is apparent, taking even the official estimates of deaths from malaria, that its effects in our country are more alarming than the havoc caused by an epidemic disease. Malaria, instead of being a serious menace, is assumed to be a normal feature of life in India. It is not, however, the direct toll of human lives but the indirect effects on mortality of this disease that should cause the gravest concern to those responsible for our welfare. It is a truism that lingering malaria weakens the vitality of those who suffer from it, and reduces the birth rate. It is not possible to determine precisely to what extent malaria affects the birth rate. But Mr. Ranadive gives the following table in which he compares the birth rate of those areas of Bengal which are known to be malarious with the birth rate of the whole of Bengal :—[2]

	1901-11	1911-21
Birth rate in Bengal	37.60	32.8
„ „ „ West Bengal	33.48	30.2
„ „ „ Central Bengal	33.83	30.8
Deficiency in West Bengal	4.12	2.6
„ „ Central Bengal	3.77	2.0
Loss in Births over previous census in West Bengal	339,491	220,155
Loss in Births over previous census in Central Bengal	291,450	188,513
Total loss in births	630,941	408,668

There is no doubt that malaria constitutes one of the gravest threats to the health of the population. Col. Sinton who was Director of the Malaria Survey of India for a number of years asserted that there was indisputable evidence to show that about 100,000,000 individuals, suffer yearly from malaria in British India alone, and that about 25 to 75 million more suffer from an indirect morbidity due to malaria.

Annual deaths from malaria in British India are approximately 1¼ million. In 1936, recorded figures showed a toll of 1,567,084 lives.

[1] Ranadive, "Population Problem of India," 1930, p. 100.
[2] *Ibid.*, p. 102.

"During the past decade, cholera, small pox and plague, the three infectious diseases which generally attract most notice, were altogether responsible for about 357,000 deaths each year, a figure which is less than one-third of the annual toll of life taken by malaria. It is, therefore, certain that malaria constitutes the major public health problem in India, both from the point of view of morbidity and of mortality."[1] The Annual Report of the Public Health Commissioner for 1938 observes : "In British India as a whole the number of deaths registered as being due to malaria was 1,577,865 in 1938, of which nearly 96.4 per cent took place in rural and remainder in urban areas. The corresponding mortality rates for malaria were 6.1 per mille in rural and 2.2 per mille in urban areas. The incidence of the disease in the villages appears, therefore, to have been much higher than in the towns."[2]

As regards tuberculosis—essentially a poverty disease—the Public Health Commissioner in his report for 1938 observes : "The available evidence seems to suggest that the disease has been spreading from congested urban to the rural areas, and now constitutes one of the most important problems in India from the viewpoint of health. Like leprosy it is one of those social diseases whose control can be attempted only by a comprehensive plan of improvement of living conditions . . . social measures directed towards improved housing conditions and better nutrition constitute an equally important part of the preventive campaign."[3]

The following table also shows the comparative death rates from some diseases in a few cities :—[4]

Cause	Specific Death Rates per 100,000 Calcutta	Madras	Bombay	New York	London
Tuberculosis	270.0	113.0	170.0	47.0	87.0
Dysentery and Diarrhoea	250.0	436.0	252.0	0.0	0.0
Typhoid	90.0	16.0	40.0	0.2	0.4
Cholera	50.0	0.0	0.0	0.0	0.0

That the positive checks of Malthus are still in operation in India is as good a commentary on the habits and ways of life of the people of India as on the administration of the rulers of the country.

Density

The number of people that can be supported in any country per

[1] Annual Report of the Public Health Commissioner for 1936, p. 49.
[2] Annual Report of the Public Health Commissioner for 1938, p. 43.
[3] P. 54. The King-Emperor's Anti-tuberculosis Fund and the Tuberculosis Association of India established in 1939 are worth noting in connection with the organised efforts against this disease.
[4] John B. Grant, "The Health of India," Oxford Pamphlets on Indian Affairs No. 12, April, 1943, p. 21.

square mile depends on the stage of economic development which the country has reached and on its natural resources. A highly industrialised country can support a far larger number of people than a country like India, with a population mainly dependent on agriculture carried on by methods handed down from early days. The following table gives us the comparative density of population in a few typical countries :—

Number of persons per sq. mile in 1940

Belgium	702	Japan	250
England and Wales	703	U.S.A.	437
Netherlands	639	India	248

The following table gives the comparative growth of density in India :—[1]

	Density				
	1901	1911	1921	1931	1941
India	179	191	193	213	246
Provinces	254	267	269	296	341

Percentage Variation	India	Provinces
1901-11	+ 6.7	+ 5.0
1911-21	+ 0.9	+ 0.8
1921-31	+10.6	+ 9.9
1931-41	+15.0	+15.2
1901-41	+37.0	+34.1

The following table shows the relative increase in density in some provinces :—[2]

	Density per square mile					Percentage variation
Province	1901	1911	1921	1931	1941	1901-1941
Madras	287	309	318	350	391	+ 36.1
Bombay	200	211	209	235	272	+ 36.1
Bengal	529	569	584	627	779	+ 43.1
Punjab	201	198	209	238	287	+ 42.5
Bihar	405	421	416	464	521	+ 28.6
C.P. and Berar	120	139	139	156	170	+ 42.0
Sind	67	73	68	81	94	+ 41.2
Sikkim	21	32	30	40	44	+105.9

It will thus be seen that the density varies from 780 in Bengal to 44 in Sikkim State.

[1] Census Report, 1941 Vol. I, Part I, p. 69.
[2] *Ibid.*

The growth of population in Bengal gives rise to a question that was even asked in 1931 by an officer of the Bengal Government in the last census report, namely, can Bengal support a larger population ? The officer in question, namely, the Census Superintendent, Mr. Porter, anticipated that the population would increase to 53 million in 1941. The actual population of Bengal to-day is 60 million. Mr. Porter based his calculations on the application of Pearl's Logistic Curve, and pointed out that the prospect of such a considerable increase led to the apprehension that the population was rapidly approaching numbers, which could not be sustained at any reasonable standard of living upon the means of subsistence which Bengal could produce for long. He, however, endeavoured to contend against such an apprehension by referring to the possibility of increased output of food, improved methods of cultivation and extension of the cultivated area. He naively maintained that " Bengal could support at its present standard of living a population nearly twice as large as that recorded in 1931." We wish facts could justify such a cheerful anticipation as Mr. Porter would have us accept for the future of Bengal. The preponderance of rice diet is indicative of a hand to mouth existence as in South India. There are districts in Eastern Bengal where four or five crops are raised in the year. An analysis of the food values of diets in Western Bengal shows serious underfeeding. Malaria levies a toll of between 300 and 350 thousand per annum. The span of life in Bengal is shorter than in other parts of India, and the number of persons aged 50 and over is abnormally low. All these circumstances would lead us to conclude that Bengal has overstepped an equilibrium density, a conclusion to some extent confirmed by the stream of emigrants from Bengal to the less thickly populated provinces.

Birth Rate and Death Rate

The increase of population in any country is a function of two variables, the birth rate and the death rate. The survival rate gives us the net increase of population, that is, the difference between births and deaths. During many centuries of man's existence on the surface of the earth his numbers had increased to a total of 800,000,000 in 1820. In the next hundred years his numbers increased to more than double that amount. The numbers are 2,170,000,000 to-day.

Carr Saunders gives us a table that indicates the relative growth in world population during the last four centuries :—[1]

1 "World Population", 1936, p. 42. Figures for 1938 are added from Statistical Annual of the League of Nations, 1940-41

Population in Millions

	1650	1750	1800	1850	1900	1933	1938
Europe	100	140	187	266	401	519	400[1]
North America	1	1.3	5.7	26	18	137	142
Central and South America	12	11.1	18.9	33	63	125	132
Oceania	2	2	2	2	6	10	10.6
Africa	100	95	90	95	120	145	155
Asia	330	479	602	749	937	1,121	1,134[1]

Percentage Distribution

Europe	18.3	19.2	20.7	22.7	24.9	25.2	24.7
North America	.2	.1	.7	2.3	5.1	6.7	6.5
Central and South America	2.2	1.5	2.1	2.8	3.9	6.1	6.1
Oceania	.4	.3	.2	.2	.4	.5	.2
Africa	18.3	13.1	9.9	8.1	7.4	7.0	7.2
Asia	60.6	65.8	66.4	63.9	58.3	54.5	55.3

It will be seen from this table that the population of Europe and North America very rapidly increased during the last 150 years whilst the population of Asia shows a declining tendency, measured in terms of the total population. The same tendency may be indicated by the fact that in 1770 the white population of the world was 155 million, the coloured population 730 million ; in 1938 the whites increased to 600 million whilst the coloured were 1,400 million. The proportion of the white people has thus increased from about one-fifth in 1770 to about one-third of the total population in 1938. At the same time it is significant that in spite of this great increase in the numbers of the Whites their standard of life has appreciably improved, whilst that of the coloured people has remained stationary, if it has not deteriorated.

The birth rate of a country taken in connection with the death rate determines the natural increase in the population. For the purposes of comparison the number of births is commonly expressed by a birth rate ; that is, the number of births per annum per 1,000 of the population. A population may increase by having a large birth rate and a large death rate, or it may increase by a comparatively small birth rate accompanied by a correspondingly small death rate. The following table shows the declining birth and death rates of a few countries :—[2]

[1] Exclusive of U.S.S.R. which has a total population in Europe and Asia of 170 million.

[2] We have abbreviated the table from Gyan Chand: "India's Teeming Millions," 1939, p. 100.

THE HUMAN FACTOR

Declining Birth and Death Rates

(per 1,000 of population annually)

	Birth Rate				Death Rate			
Country	1881-91	1921-25	1926-30	1931-35	1881-91	1921-25	1926-30	1931-35
U.K.	32.5	20.4	17.2	15.5	19.2	12.4	12.3	12.2
Sweden	39.1	19.1	15.9	14.1	16.9	12.1	12.1	11.6
Germany	36.8	22.1	18.4	15.9	25.1	13.3	11.8	11.0
France	23.9	19.3	18.2	16.5	22.1	17.2	16.8	15.7
U.S.A.	—	22.5	19.7	17.3	—	11.8	11.8	10.9
Japan	27.2	34.6	33.5	31.6	19.9	21.8	19.3	18.1
India	35.9	32.7	33.3	34.3	27.4	26.0	24.3	23.8

It will thus be seen that there has been a definite downward tendency in Eastern countries in the birth rate and the death rate whilst, on the other hand, there has been not only a persistently high birth rate in India but a correspondingly high death rate. Moreover, even these birth and death rates are probably under-estimates.'[1]

The causes that determine the birth rate may be briefly considered under three heads, namely, (1) environmental causes, determined by climate and physical surroundings, (2) economic conditions or causes and (3) the socio-religious outlook of a people.

(1) It has been pointed out that the births in any year fluctuate according to months. In tropical countries with early child marriages the birth rate may be higher than in colder countries where puberty is late in arrival and marriages take place at a maturer age.

(2) More important is the economic factor. It has been repeatedly pointed out that people of little means tend to have larger families than the well-to-do. The poorer an individual or a class, the larger the size of the family. Where there is no stake in life, the arrival of an additional child is a source of additional income, as the child may be put to work at an early age to supplement the meagre resources of the family. Poverty has been usually associated with lack of education, the absence of prudential considerations and a consequent attitude of irresponsibility in relation to marriage and procreation. On the other hand, the history of Western countries shows that an improvement in the standard of living, after a particular level is reached, is always followed by a fall in the

[1] According to Dr. Gyan Chand, the normal birth and death rates in India are [illegible]d 33 per mille respectively, as an addition of 33 per cent for the birth rate [illegible]0 per cent for the death rate in order to get a reasonable approximation to [illegible]cts is necessary.

birth rate. Prudential motives play a larger part, reinforced by education. Thus in the U.S.A. Negro families are found to have larger families than the Whites.

(3) Equally vital as a factor influencing the birth rate is the socio-religious outlook of a class or of a country. Thus in India, as in some of the South European countries, the birth rate is very largely influenced by social conditions and customs associated with marriage. In India marriage is universal. In 1931, 467 males and 493 females out of every 1,000 were married, that is, if we take into account widowers and widows as well as ascetics and mendicants, almost every person of marriageable age was actually married. Phenomenal as the poverty of the Indian people is, economic considerations appear to be of secondary influence with regard to marriage. Even to-day marriages are arranged without the parties having any say in the selection of their mate, and in most cases without regard to resources and prospects. In India poverty does not act as a deterrent in the matter of marriage. Marriage in India is sacramental. To have a large family is an indication of the blessing of the Gods. A father would regard it as a disgrace if he did not settle his daughter in marriage, before the age of 15. Moreover, early marriage has also been regarded as a cause that influences the birth rate. Most of the women who marry in India are married before they are 20, and most women in India bear most of their children before they are 30.

The custom and institution of child marriage have been the product of later times in India. The Age of Consent Committee calculated that about 50 per cent of the girls get married before they complete their 15th year. Early marriage has undoubtedly had not only serious consequences on the health of the married girls, but has been responsible for the enormous number of widows in the country. It is also to be remembered that marriage below the minimum age laid down by the law still persists. The number of infant widows in 1931 doubled, a fact which was due to the number of baby girls under the age of one year who were married off in 1929-30 and lost their husbands. The Child Marriage Restraint Act was passed in September, 1929, and was to take effect from the 1st April, 1930. The interval was utilised for forestalling the Act and this led to the increase in the number of married girls from 8.5 million in 1921 to 12.7 million in 1931. Curiously enough, it may be noticed that it is comparatively recently that the age of consent has been raised in England from 14 to 16—Actually it was still legal in England in 1928 to marry a girl of 12. It has also to be remembered—not that we desire to advocate child marriage—that the elimination of early marriages would increase the potential fertility of the young men and women when mature.

If the institution of child marriage in the past was the outcome of changes in the social and political conditions of our society, there is no reason why a fresh reconstruction of ideas with regard to the age of marriage may not be possible for us. If we are to avoid the dangers that threaten society in the shape of a gradual degeneration of the population, due to the enfeeblement of the mother and a heavy death rate of females in the child bearing period, we can do so only by raising by a couple of years more the age at which girls can enter married life and by the rapid spread of education through the opportunities which the radio and the cinema have placed at our disposal.

Thus the factors which are responsible for a high birth rate in India are the institutions of early marriages and the universality of marriage. The poverty of the population may be a contributory factor, as in the case of Ireland ; but, as in Ireland Catholicism with its conception of marriage, so in India the religious ideas associated with marriage constitute the governing factor in the determination of the high birth rate. The sterilisation of widows of child bearing age, by the custom that regards widow remarriage as a sin, influences the birth rate by preventing it from becoming higher. "The high birth rate in India is a part of our culture, and it is only when the moral sentiments of the community change either by choice or the force of circumstances that a fall in the birth rate comparable with the fall which has taken place elsewhere can be expected."[1] The birth rate in India is intimately linked up with its social institutions which ultimately involve the degradation of the social status of women. Not until women in India enter into their own and reach a status of equality with men in all the relations of life can we expect a radical change in birth rate trends.

The number of births in a country has an important bearing on its social conditions, just as the social conditions influence in turn the number of births. In France the low birth rate results in a population of high productive power, but with no good prospects for the future. A low birth rate is an evil, if it leads to future low productive power or to social immorality. A high birth rate is an evil, if it overburdens the productive power and leads to a condition of persistent poverty. The way in which a community grows, whether by a high birth rate and a high death rate, or by a moderate number of births and few deaths, is to some extent an indication of the stage of civilisation in which that community finds itself. A high birth rate and a high death rate in themselves are evidence of an enormous wastage of life. In India for

[1] Gyan Chand, op. cit. p. 145.

example what this means is that 24 to 25 people have to die in order that 7 or 8 should survive for every 1,000 of the population.

The fertility rate is determined by the number of children born every year to 1,000 women of child bearing age (15-45). Whilst the fertility rate remains the same, the birth rate may fall. If instead of 240 women of child bearing age there were only 120 out of every 1,000 population, the fertility rate may remain unchanged, but the birth rate would be halved. A special enquiry was carried out in 1931 in India to ascertain the fertility rate. The enquiry showed that taking the average in the thirty years of child bearing period a woman who completes the period has 6 to 7 children. The following table may be sufficient to illustrate the conclusion :—

Number of Children Born per Woman in Case of Completed Fertility

Province or State	Assam	Bengal	Bombay	Punjab	C. P.	Baroda	Mysore	Travancore
No. of Children	6.7	6.0	6.1	6.4	6.7	6.0	7.0	6.4

In the West attention is sometimes called to the differential birth rate. The birth rate, it is pointed out, is higher among the lower and poorer classes than among the upper classes who are assumed to be biologically superior. There have been gloomy forebodings about civilisation committing suicide, by the refusal of the better endowed classes to multiply. Birth control methods have facilitated the low birth rate amongst the upper classes. In India the birth rate of the different castes and classes cannot be accurately determined. But from the tables compiled by the special enquiry of 1931 it would appear that there is no evidence that the upper classes have a lower birth rate, as the following tables show :—[1]

	Average number of children born per family
Agriculturists	4.4
Industry	4.2
Profession	4.3
Law, Medicine and teaching	3.7
Public Administration	3.9
Average for all occupations	4.3
Brahmins	5.2
Kayasths	6.3
Depressed castes	4.1

[1] These tables have been abstracted from Gyan Chand, op. cit. pp. 157-9.

	Average number of children born in cases of completed fertility	
	Bengal	C.P.
Average of all occupations .. .	6.0	6.7
Agriculture	6.1	6.8
Wood workers	6.2	5.8
Priests	7.3	7.1
Lawyers	7.1	7.0
Doctors	6.7	7.1
Teachers	5.2	4.5

These tables bear witness to the tendency of the people of India to multiply to the limit of their capacity. All classes and castes exercise their procreative impulses to the full. Looking at the future of the birth rate in India the conditions which make the birth rate high, nay, about the highest in the world, are not likely to be modified in the immediate future. Radical social changes are not in themselves impossible ; a force like the personality of Gandhiji may set in motion very rapid changes. Social reforms are growing in strength and in volume. The status of woman has been raised. The general attitude of people towards life is becoming more rational and critical. The use of contraceptives is increasing and is likely to increase further among the educated classes. But it is difficult to predict with certainty the future course of population trends.

When we turn to the death rate in relation to the birth rate, as we have already stated, the same net increase of population may be attained by a large birth and death rate as by a small birth and death rate. We think of the former as characteristic of half civilised conditions and of the latter as more or less the ideal aimed at by civilised life. The death rate is an index of the condition of the community from year to year. Wars, epidemics and economic depression are reflected in an increased death rate, while a low death rate is an index to economic prosperity and the application of scientific knowledge to the problems of health. The death rate varies according to sex and age, in different climates, among different races, in different occupations. It is an index of the resisting power of the community in times of economic distress. When the death rate fluctuates, from year to year, and with changing conditions, it shows that the community has no resisting power against the forces of nature. On the other hand, the death rate is controllable to a certain extent with advancing knowledge.

In India the death rate like the birth rate has remained practically steady from 1885. The recorded death rate of 25 per 1,000 is said to be

lower than the actual death rate which is nearer 33 per 1,000. In 1918 the recorded death rate rose to 62 per 1,000 owing to the influenza epidemic. The record in that year was defective owing to the breakdown of the reporting machinery. A more reliable index to the actual death rate is afforded by life tables as below :—

	1881	1891	1901	1911	1931
Male .	42	41	42	44	37
Female ..	39	39	42	43	38

The survival rate in India has been higher than that of some other countries of the world since 1921. The following table gives us comparative figures :—

Survival Rates

	1881-91	1891-1901	1901-11	1921-25	1926-30	1931-35
Germany ..	11.7	13.9	15.9	8.8	6.6	4.9
Italy ..	10.4	10.8	11.1	12.4	10.8	9.8
United Kingdom ..	11.3	11.7	11.8	8.0	4.9	3.3
Sweden ..	12.2	10.7	10.7	7.0	3.8	2.5
France ..	2.8	0.6	1.2	2.1	1.4	0.8
U.S.A. ..	..	..	..	10.7	7.9	6.4
Japan ..	7.1	8.9	11.4	12.8	14.2	13.5
India (1885-90) ..	8.4	4.1	4.3	6.7	9.0	10.2

The survival rate for 1911-20 has been omitted from the table owing to the abnormal conditions which prevailed during the war period. The survival rate of India from 1931 is, next to Japan, the highest in the world. If in the earlier decades it was abnormally low, this was due to the outbreak of epidemics like bubonic plague and influenza, and to the mortality which resulted from frequently recurring famines. The reduction of the death rate is according to some writers like Mr. Wattal, dependent upon a reduction in the birth rate. It is frequently argued that a high birth rate is necessarily followed by a high death rate. This is not quite accurate. In England from 1871 to 1892 there were five years in which the birth rate rose. In three of these there was a rise in the death rate, but in the other two a fall. So also in India, in 1910-17 and 1922-30 the birth rate was higher and the death rate lower than usual. If deaths due to famine are less numerous than in earlier years, this is due not so much to improvement in food supply as to improvement in transport and organisation. In a country like India where the resisting power of the people against diseases is so low, due to under-nourishment, the death rate in the future may even go beyond the recorded death rate in 1901-11 or 1918-19. The most important cause of high death rate is

malnutrition. As the Director of the Nutrition Research Laboratories, Coonoor, observes, "Half the mortality recorded in India occurs in children under ten years. Malnutrition is one of the chief causes of the rapid exit of young human beings from the world so soon after their arrival in it."[1]

Apart from climatic conditions the factors that are responsible for a high death rate in India include ignorance with regard to health conditions, superstition, the inadequacy of medical institutions and relief, and the poverty of the people.

(1) The high rate of infant mortality can be attributed to ignorance and the inability and unwillingness of the people to avail themselves of maternity services. There is normally speaking utter ignorance of the simple laws of health and of the importance of cleanliness. But it would not be true to assert that a low birth rate is necessarily linked with a low death rate in the case of infants.[2]

(2) It is also true that in India there is a lack of dispensaries and hospitals, of medical assistance and of preventive health measures, on a scale commensurate with the needs of the population.

(3) It is a truism that a man of limited resources can do more for his children when they are few than when they are many. For a people so deeply sunk in poverty as our own, it is impossible to take adequate care of the children, in the shape of feeding, nursing and medical assistance, even if they were educated and familiar with the laws of hygiene and sanitation.

(4) More vital as a factor in reducing the death rate is collective or state action in the shape of the provision of better housing conditions, of sanitation in towns and villages, of an efficient medical service equipped with liberal supplies of drugs, and of hospitals and sanatoria. A government that spends crores on defence can spend on education and sanitation. A government that can raise loans for irrigation and railway development can equally raise loans for the provision of better houses and drainage and free dispensaries.

The resources that a government can command will be determined by the resources of the people ; and the latter cannot be increased substantially if increase in productive resources is accompanied by a corresponding, if not a faster, increase in numbers. With our limited resources even

[1] Quoted in "The Health of India," Oxford Pamphlet, p. 8.

[2] The comparative figures of infant mortality for a few cities reveal the vast scope for improvement in India:

Infant mortality rates per thousand live births

Calcutta	Madras	Bombay	New York	London
212.9 (1931)	205.8 (1931)	201.4 (1931)	30.8 (1941)	48.0 (1940)

a progressive national government will find itself crippled in the task of reducing the misery involved in a high birth rate, if the population increases at the rate of one per cent a year. "The task of dealing with the accumulated arrears of the past is itself colossal and a vivid appreciation of the fact cannot but intensify the widespread desire for a radical change in our whole economic and social system. But if the magnitude of the task is increased every year by the birth of nearly 10 million babies, one fourth of whom do not survive the first year of their life, and nearly one half of whom do not live even up to the age of ten—leaving nothing behind except a sense of frustration, an incalculable loss of vitality and human happiness, accompanied, of course, by absolute waste of all the resources involved in giving them all too brief a lease of life—even radical changes, whatever their nature or range, will fail to provide the irreducible minimum for a healthy and civilised existence."[1]

It is obvious that so long as we have a high birth rate, it is difficult to think of any immediate change for the better in our material condition. We shall continue to grow at the rate of about 10 to 13 per thousand every year, unless our numbers are seriously affected once again by natural calamities.

The Net Reproduction Rate

During the last fifty years there has been a definite decline in fertility in almost all countries inhabited by the whites. Whilst the average number of children born to a married woman passing through child bearing age is now 5 to 6 in Russia, and about 3 to 4 in South Eastern Europe, it is about 2 in most countries of Western and Northern Europe, in the U.S.A. and in Australia. Two governments which were particularly worried about the declining fertility—Italy and Germany—tried to encourage the raising of large families by taxing bachelors and married couples with no or few children, by granting exemptions from taxes to employees with large sized families, by granting birth premia, by giving preference in government service to men with large families. But the adoption of these measures has not been attended with the success that was anticipated ; and economists have called attention to the need for considering not the fertility rate but the net reproduction rate to establish a true balance of births and deaths.[2] This rate shows the

[1] Gyand Chand, op. cit. pp. 173-4.

[2] As Kuczynski observes, "The pertinent question is not: Is there an excess of births over deaths? but rather : Are natality and mortality such that a generation which would be permanently subject to them, would during its life time, that is, until it has died out, produce sufficient children to replace that generation? . . The pertinent question is : Are natality and mortality such that 1000 newly born girls will in the course of their lives give birth to 1000 girls ?" "Balance of Births and Deaths," Vol. I, p. 41.

average number of future mothers born to a mother of to-day. If this rate is one, it means that the present generation of females will, on death, have been fully replaced by the new born girls, and the population will remain constant. If the rate is above one, the population will increase. If it is below one the population will decrease.[1] Judged by this standard we obtain the following results :—

	Year	Net reproduction rate
	1920	1.11
	1930-32	.81
England and Wales	1933	.73
	1934-36	.76
	1930	1.07
	1931	1.03
	1932	.99
U.S.A. . ..	1933	.94
	1934	.96
	1935	.96
	1920-22	1.30
Australia	1932-34	.95
	1935-36	.95
	1920-23	.97
	1925-27	.92
France	1928-33	.90
	1935	.86

Working on the assumption that the net reproduction rate continues to fall at the same rate, it has been estimated that the population of England and Wales which in 1938 was 45 millions will decline to 38 million in 1975 and 20 million in 2035 ; that of France which is nearly 42 million will decline to 30 million in 1975.

It is difficult, if not impossible, to ascertain the net reproduction rate for India. Statistical information bearing on the number of girl babies born to women in different age groups is not available. In the absence of such data we can fall back upon the fertility rate which is the same for all classes and can only anticipate a further growth of population, unless nature relieves us of a growing population by epidemics, or a

[1] Kuczyniski, 'World Population' in "The Population Problem," 1938, p. 113. The fertility rate is the number of births per 1000 women between the ages of 15 and 45. If on an average every woman who reached the age of 45 or over was survived by one girl child, the population would be exactly reproducing itself and the net reproduction rate would be 1. A rate of 1 means that on an average every 100 women between 15 and 45 will be replaced by 100 women of the same age. A net reproduction rate of .75 means that every 100 women of child bearing age (15-45) are survived by only 75 girls.

rapid and marked improvement in economic conditions leads to a fall in the rate. The probability is that greater accentuation of poverty during the war period, in spite of its toll of life due to famines and epidemics, will increase our numbers, as the birth rate is not likely to be affected in the near future. However rapid the tempo of economic development—and this by itself is a pious wish—it is not likely to raise the standard of living to that level at which it might affect the size of the family, so far as the masses are concerned. It is obvious, therefore, that the demographic problem in the coming two or three decades will be that of the impact of a progressively increasing population on our ill-balanced and deteriorating economic and social structure.

The following table from 1941 Census shownig the estimated probable addition to the population as a result of a decrease in infantile mortality in the next two decades is of great interest in this connection :—

Probable additions at the middle of each census year[1]

Source of addition to population	1931	1941 (a)	1941 (b)	1951 (a)	1951 (b)
Additional saving of infants each year	807,470	3,052,985	3,052,619	5,919,061	6,512,904
Births occurring among additional infants saved :—					
(i) First generation	—	21,595	21,595	531,276	531,276
(ii) Second generation	—	—	—	16	16
Total ..	807,470	3,074,580	3,074,214	6,450,353	7,044,196

	1961 (a)	1961 (b)
Additional saving of infants each year	8,732,929	10,993,458
Births occurring among additional infants saved :—		
(i) First generation	2,382,618	2,394,202
(ii) Second generation	11,486	11,486
Total	11,127,033	13,399,146

[1] Census Report for 1941, p. 34.

The Census Commissioner observes, "Thus even if the infant mortality rate continues to be 160 per mille (the figures for 1940) for the next two decades, substantial additions of 6.5 and 11.1 millions are likely to result by 1951 and 1961. If, on the other hand, infant mortality should continue to decrease at the same rate as during 1920 to 1940, the corresponding figures will be 7.0 and 13.4 millions respectively.[1]

CHAPTER V

THE HUMAN FACTOR

Distribution of Population between City and Country

In a country with a balanced economy the population is fairly evenly distributed between the towns and rural areas. The concentration of population whether in the rural or in the urban areas gives rise to serious problems of an economic, social and political character. India had a fairly evenly distributed population even as late as the first half of the 19th century. The villages were self-supporting autonomous units, regulating their communal affairs through panchayats. The cities were the centres of industries fostered by the rulers, small and large, who supported a large number of officials and favourites in comparative splendour. These princely courts created demand for artistic products and, along with the wealthier merchants and landowners who surrounded them, employed a fairly large number of merchants and middlemen and craftsmen. These urban centres obtained their foodstuffs from the rural districts around them in exchange for their manufactured products. The Industrial Revolution in Europe brought with it far reaching changes in the distribution of population. The artisans and craftsmen who were deprived of their means of livelihood by means of the introduction of machinery were absorbed in increasing numbers into the rapidly multiplying factories. Large numbers from the rural areas were attracted to the already congested cities. The improvement of farm implements and the introduction of machinery into farming contributed to the migration from the village to the city, a migration which was facilitated by improvements in communication.

Thus in the West the era of machinery and large-scale production resulted in the urbanisation of the population. In India, on the other

[1] Note by Satya Swaroop, Statistician, Office of the Director-General, I.M.S. on probable effect of a decrease in infantile mortality on the future population of India. Census Report, 1941, p. 42.

hand, the introduction of cheap machine-made goods and the imports of manufactured commodities from abroad led to the destruction of handicrafts in the towns and cities. The urban population that made a living out of these new crafts were compelled to fall back on the land as the only means of livelihood. Our country was transformed from a manufacturing and industrial into a predominantly agricultural country.

It is also to be noticed that most of the urbanisation that exists in India to-day is commercial rather than industrial urbanisation. Urbanisation in India to the extent to which it exists is not the result of industrialisation. It is the artificial result of an artifical economic evolution. A number of cities have grown into their present size because they were important railway junctions and distribution centres like Nagpur and Cawnpore, the centres of British administration and the headquarters of Government departments. The growth of many of the modern cities is only incidental to the evolution of transport. Until the middle of the 19th Century Bombay was little more than "a mere collecting centre for the trade of the smaller parts of the West Coast."[1] The growth of Karachi was largely due to its importance in the economic life of Western India as a distributing centre connected with the Punjab by railway. Cawnpore owes its importance to the fact that it is an important railway junction and "a convenient distributing centre for the imports of Manchester piece-goods, hardware and machinery from Bombay and Calcutta."[2]

The following table shows the growth of population in some of the principal cities of India :—

Cities	Population 1931	Population 1941	Percentage variation 1881-91	1891-1901	1901-11	1911-21	1921-31	1931-41
Calcutta with Howrah	1,389,000	2,488,000	+12.5	+22.9	+11.0	+ 4.3	+11.9	+79
Bombay	1,161,000	1,490,000	+ 6.3	— 5.6	+26.2	+20.0	— 1.2	+28
Madras	647,000	777,000	+11.5	+12.6	+ 1.8	+ 1.6	+22.8	+20
Hyderabad (Deccan)	467,000	739,000	+13.0	+ 8.0	+12.0	—19.0	+16.0	+58
Delhi	447,000	522,000	+11.1	+ 8.3	+11.6	+30.7	+47.0	+23
Lahore	430,000	672,000	+12.4	+14.8	+12.7	+23.2	+52.5	+56
Ahmedabad	310,000	591,000	+16.3	+25.3	+10.6	+26.4	+14.5	+91
Lucknow	275,000	387,000	+ 4.4	— 3.3	— 1.6	— 4.6	+14.2	+41
Amritsar	265,000	391,000	—10.0	+18.8	— 6.0	+ 4.9	+65.3	+48
Karachi	248,000	359,000	+43.0	+10.9	+30.2	+42.8	+21.5	+45
Cawnpore	244,000	487,000	+24.9	+ 4.5	—12.0	+21.2	+12.6	+99
Nagpur	215,000	302,000	+19.0	+ 9.0	—21.0	+43.0	+48.0	+45

According to the Census of 1941, 23, cities have a population above 200,000 as compared with 17 cities in 1931. Calcutta, with its suburbs

[1] Handbook of Commercial Information for India, p. 70.
[2] *Ibid.* p. 110.

is the only city, with a population of about 2,500,000. Whereas the percentage of the urban population in 1931 was 11 per cent of the total population it had increased ot 13 per cent of the total in 1911. There has been a distinct trend during the last ten years towards the migration of the population to towns and cities. The growth of urbanisation and the imposition of a competitive system on a self-subsistent type of production have disturbed the economic isolation of the villages, and created a capitalist system involving a seasonal labour market and the exploitation of the masses. Whilst we have not enjoyed so far the benefits of industrialism to a great extent, we have reproduced in our cities all the evils associated with over-crowding, slums and unemployment.

The extent to which slums have been created in India by the process of urbanisation may be illustrated by the 1931 figures of congestion in Bombay City :

No of Rooms per tenement	Number of tenements	Per cent	Number of occupants	Per cent of population	Average per room
1 room	197,516	81	791,762	74	4.01
2 rooms	26,231	11	131,872	12	2.51
3 „	7,416	3	44,821	4	2.00
4 „	6,169	2	42,013	4	1.70
5 „	2,953	1	22,302	2	1.50
6 „ and over	3,836	2	39,199	4	—

The census of India for 1941 gives us the following figures of housing conditions :

	Persons per 1000 houses	
	1931	1941
India	4,965	5,116
Provinces	4,998	5,131

The Census Superintendent of Madras wrote in the report of the 1931 census, "A marked feature of Madras is the street-dweller and squatter. A midnight tour of the central and northern parts of the town any fine night would disclose sleeping persons on every side walk. These persons are not all tramps by any means ; the majority, indeed, are ordinary citizens in every thing but the possession of a roof. Such a possession has no great inducement for a population of floating labour in a mild and pleasant climate in a city where houses are rare and rents often exorbitant."[1] The combined effects of semi-starvation, overcrowding and lack of sanitation on the health of the people might well be left to imagination.

A one-room tenement in Bombay normally varies from about 10 × 10

[1] Census of India, 1931, Vol. I, Part I, p. 57.

feet to about 12 × 15 feet, and the average per room is more than four persons. Each of them has an average of 5 to 7 square feet of floor space. Sometimes 3 or 4 families are huddled together in a single room.[1] By way of contrast, however, we may mention a purely industrial city like Jamshedpur where quarters are built by the Tatas for their employees with proper provision for filtered water and drainage.

It has been said that in a country that is predominantly agricultural, there is a tendency to stagnation and lack of enterprise and that a certain measure of industrial life is essential for building up a vigorous national character. At present only 13 per cent of the population in India are town dwellers as compared with the U.S.A. which had 56 per cent of the total population dwelling in towns in 1930.

Distribution on the Basis of Sex

The distribution of population according to sex has vital economic bearings in so far as it affects the labour supply through marriages and fecundity. With the exception of the depressed classes and the women in the lower strata of society, women in India can scarcely be said to be producers of material wealth. In making such a statement we do not, as it is obvious, take into account the more vital services which women perform as housewives and as mothers.

In many parts of Europe there has been an excess of females. In 1940 the number of females per 1000 males was 1088 in Portugal ; and 1091 in England and Wales in 1931. In the U.S.A. there were on the other hand in 1940, 985 females per 1000 males. In India as in the U.S.A. there is an excess of males over females.

Proportion of Sexes in India

Year	Males	Females
1901	1000	963
1911	1000	954
1921	1000	945
1931	1000	941
1941 ..	1000	935

Proportion of Sexes in Provinces—Females per 1000 Males

	1901	1911	1921	1931	1941
Punjab ..	854	817	828	831	847
Madras ..	1,028	1,030	1,024	1,021	1,009
Bengal ..	1,016	—	933	924	899
Bombay .	964	—	926	929	927

[1] For further details of slum conditions, see the section on Labour.

Taking the country as a whole, there has been a steady decline in the number of females per 1000 males. The shortage of females which is so characteristic of the population of India has given rise to considerable speculation with regard to the causes that can account for it.

(1) There is no doubt that one factor that has to be considered is that of early marriages. Girls of tender age and of a feeble constitution become mothers before they have built up a mature physique. Their constitution is undermined and their vitality impaired by frequent births ; and the result is a high rate of female mortality. This will be clearly evident from the following table which compares the mortality rates per mille of males and females between 15 and 40 :—

	1933		1936	
Age	Males	Females	Males	Females
15-20 ..	8.0	10.0	8.0	9.8
20-30 ..	9.0	11.0	9.4	11.8
30-40 ..	12.0	12.0	11.9	12.6

(2) Not only are children born in a series of successive years by child-mothers apt to be physically weaklings, but they are apt to be neglected if they are girls, not through any lack of human sympathy, but on account of social customs and attitudes which make parents look upon girls as a burden, whilst sons are looked upon not merely as means of support, but as instrumental to the very perservation of the life and prosperity of the family. A son alone can offer sacrifices to the ancestral gods on whose favours and blessings depend the existence and perpetuation of the family. "Sons are everywhere desired, not only among Hindus where a son is necessary to his father's salvation, but almost equally so among other communities as well ; daughters in many parts of India mean great pecuniary expense in providing for their marriage, which, moreover, among majority perhaps of Hindus must be arranged by the time they reach puberty. So strong indeed is the prejudice against the birth of daughters that abortion is reported sometimes to be practised if the child in the womb is foretold to be a girl."[1]

It would also appear that in every province the number of female births is smaller than the number of male births. Whilst there has been an increasing pressure of population under present conditions the decline in the number of female births may in the long run involve a declining population. The declining proportion of females to males which has been a feature characterizing the few decades for which census figures are available might also suggest a trend towards lower national vitality,

[1] Census Report, 1931, Vol. I, Part I, p. 195.

which can only be explained in terms of malnutrition and general poverty.

(3) It has also been alleged that in some cases women die of overwork. It is not unusual to see in our country a woman big with child working till the last day, sometimes till the last hour before delivery ; after delivery the woman becomes a physical wreck, if she survives. In many cases for lack of proper medical advice and treatment before and after delivery she may not survive at all.

(4) There is no evidence to justify the assumption of wide spread female infanticide. In a few cases the practice still prevails. The Jammu and Kashmir State as late as 1930 had to take measures to suppress infanticide in certain Rajput villages. There are tribes and clans of Rajputs in Jaipur and Gwalior States amongst whom the ratio of females to males is between 500 and 600 females per 1000 males. The Census Superintendent of Rajputana observed in the 1931 report : " Deliberate infanticide seldom comes to light, but there is no doubt that unwanted female infants are often so neglected that death is the result."[1]

Sex Ratio and Community

The shortage of females is not confined to Hindus. It is, in the first place, to be noticed that early marriages are common to Moslems and Hindus and to a smaller extent are found even amongst Sikhs and Christians as evidenced by the following table :—

Marriage under 15 per 1000 of total married persons

	Females	Males
India	157.3	65.7
Hindus	164.1	73.1
Moslems	174.3	59.4
Sikhs	74.6	26.9
Christians	43.3	15.4

The following table illustrates the same tendency :—

Number of unmarried girls in percentage of different age groups

Hindus		Moslems	
Age	Percentage	Age	Percentage
0- 5	98.5	0- 5	99.3
5-10	88.3	5-10	94.7
10-15	54.3	10-15	64.4
15-20	13.8	—	—

It has been suggested that some proportion of the excess number of males both among Moslems and Brahmins or other class Hindus may be due to the purdah system, which prevents the enumerator from having

[1] Quoted in Census Report, 1931, Vol. I, Part I, p. 196.

access to the house, and induces him to put down as females those who are not personally known to him. The All-India ratio of females per 1000 males is 782 amongst Sikhs, 901 amongst Moslems and 951 amongst Hindus. Within the Hindu community, the ratio increases in inverse proportion to social position and education. Thus in Bombay Presidency in 1931 the Hindu population was divided up according to education and status into advanced, intermediate, backward and depressed classes. *For the advanced castes the ratio of females to males was 878 per 1000,* for the intermediate castes it was 935, for the aboriginal tribes 956, while for the depressed classes it was 982 per 1000 males.

In the whole of Europe more males are born from year to year than females. This would lead to an excess of males but in most countries there is a greater mortality among men than women, and this is sufficiently great to wipe out the excess of male births. The greater mortality among males may be due to the dangers of their occupations in the defence services as well as in mines and factories. It may also be due to vice and crime. In Europe, we have another cause, powerfully affecting the relative proportion of the sexes in the shape of migration. It is pointed out that 60 per cent of the emigrants to the U.S.A. from Europe are males. In the U.S.A. the relative number of females per 1000 males declined from 978 in 1870 to 952 in 1890. After the introduction of the quota system when the number of immigrants was restricted, the ratio between the sexes has been corrected, there being 102 males for every 100 females.

Sex Ratio in Cities

For India as a whole in 1931, whereas in rural areas there were 957 females per 1000 males, in urban areas the number of females to every 1000 males was only 815. The following table shows the relative number of females per 1000 males in the urban areas of different provinces in 1931 :—

Province	Females per 1000 males total population	Females per 1000 males urban population
Madras	.. 1,025	993
Bihar and Orissa ..	.. 1,005	820
C.P. and Berar ..	.. 998	886
Bengal	.. 924	601
United Provinces ..	.. 902	805
Bombay	.. 901	773
Assam	.. 900	577
Punjab	.. 831	699

These figures are to be accounted for in the light of the common practice in India which makes men leave their families in their village homes and work for their living in towns. A table which we reproduce below from the Census Report of 1931 shows that in the cities the number of married females per 1000 married males is even smaller than the number of females as compared with males :—

Ten Large Cities	Females per 1000 males	Married females per 1000 married males
Calcutta	468	365
Bombay	554	499
Madras	897	936
Hyderabad	886	822
Lahore	565	646
Delhi	694	754
Howrah	550	447
Karachi	688	679
Benares	792	796
Nagpur	848	838

In Europe, on the other hand, there is commonly an excess of females in large cities. In the period between the ages of 10 and 20 the girls migrate to the towns as domestic servants. In the period of age beyond 50 men again migrate from the towns back to the country. It may also be that men become incapacitated for work before women.

Age Composition

Classification of the population by age has considerable interest from a sociological point of view. According to Sundbarg, a normal population has about one half of its total between the ages of 15 and 50, and the proportion of those above that age group to those below it indicates whether the population is increasing, stationary or decreasing. The youngest of the three population groups must be double the eldest if the population is to continue to grow. The census report for 1931 gives us the following table showing the population of the different provinces in order to make out that all of them are clearly progressive according to Sundbarg's classification :—

Province	Percentage of population aged 0-15	15-50	50 and over
Assam .. .	42.2	49.8	8.0
Bengal . ..	40.8	51.1	8.1
Bihar and Orissa . ..	40.2	50.2	9.6
Bombay . ..	39.7	51.2	9.1
C. P. and Berar	40.1	50.0	9.9
Madras	38.9	50.5	10.6
Punjab	41.2	48.1	10.7
U. P.	38.9	51.3	9.8
India . ..	39.9	50.5	9.6

The Census Report admits that Sundbarg's categories need readjustment before they can be satisfactorily applied to Indian conditions. Moreover, the Indian age returns are admitted to be extremely inaccurate. The 1931 report quotes the Madras Census Superintendent : "A Salem father, challenged about the absence from his account of persons present of any indication of a very recent arrival said with some surprise 'It is but now born ! Do you count it ?" Moreover, the age period of girls from 10 to 15 is defective in numbers, due partly to the unwillingness of higher caste Hindus to admit unmarried daughters already pubescent. In some parts of India girls are secluded at the age of puberty or shut up and concealed. Another reason for the misstatement of the correct age is a superstitious belief that it is unwise to state one's age correctly, as it is liable to reduce one's span of life.

What is, however, more important as a consideration which renders Sundbarg's categories inapplicable to a country like India is that the working age of the population in India is not the age between 15 and 50 but the age between 15 and 40. This was admitted in the Census Report of 1911 which says : "I have taken 15 to 40 instead of 15 to 50 as Sundbarg has done, partly because old age comes on quicker in India and partly because they correspond more closely to the reproductive period of life." Taking the distribution of population on this basis, we obtain the following age composition in percentage for 1931 and 1938 :—[1]

Age		1931	1938
0-14	..	39.9	39.8
15-39	..	41.0	41.2
40 and over	..	19.1	19.0

It will thus appear that the working population, both male and female, in India, that is the population between the ages of 15 and 40 is 41 per cent of the total population. It has to be remembered that a considerable proportion of the females belonging to the higher castes amongst the Hindus, as well as those under purdah, both Hindus and Moslems are precluded by the customs and institutions of the country from contributing to the production of wealth, except in so far as they perform services as mothers and as housewives. At the most favourable estimate it would seem that the burden of supporting the entire population falls upon 30 per cent of the population.

Taking the working age in Western countries as that between 15 and 60, the working population of the U.S.A. was 64.5 of the total in 1940.

[1] The figures for 1938 are obtained from the estimates supplied in the Statistical Year Book of the League of Nations for 1940-41.

We reproduce below the figures for a number of countries showing the population in three age groups :

Age Group	U. S. A. (1940)	Germany1 (1939)	France ((1940)	England & Wales (1937)	Sweden (1938)	Italy (1936)	Canada (1938)
0-15 ..	25.1	21.7	23.7	21.8	20.8	30.6	27.7
15-60 ..	64.5	66.0	61.4	64.9	65.6	58.4	62.8
60 and over	10.4	12.3	14.9	13.3	13.6	11.0	9.4

Relatively the burden of maintaining the young and the old in India falls upon a smaller portion of the population than in the countries that we have noted. Not only this—there is an enormous wastage of life in India as will be evident from the following table showing the comparative size of the population in percentages in different countries in the age groups, 0-15, 15-50, and 50 and over :—

Age Group	India	U. S. A.	Germany	France	England & Wales	Sweden	Italy	Canada
0-15	39.8	25.1	21.7	23.7	21.8	20.8	30.6	27.7
15-50	50.6	54.6	55.5	50.2	53.6	55.0	49.6	53.2
50 and over	9.6	20.3	22.8	26.1	24.6	24.2	19.8	19.1

The difference in the age group 0-15 which marks India from all other countries noted becomes evident. Looking to the enormously large proportion of the younger generation or first age group, we should expect a very high death rate in the group to bring down the second age group to the 50 per cent average of Sundbarg. This is further borne out by the fact that the death rate for the age group 0-15 was 33 per 1000 in 1938 as compared with 12 per 1000 for the age group 15-50. The 1931 Census Report also gives us a table showing the annual rate of mortality per 1000 for various countries, collected from published life tables :—

Mortality Rates per 1000 (1901-10)

Age	Australia	England	Germany	Sweden	U. S. A.	India
			Males			
0	95.10	144.34	202.34.	92.55	127.38	289.98
5	2.81	5.42	5.28	5.02	5.24	27.50
10	1.79	1.82	2.44	3.22	2.61	12.50
15	2.55	2.61	2.77	3.22	3.19	13.20
			Females			
0	97.53	117.43	170.48	75.98	105.51	284.60
5	2.58	2.57	5.31	5.16	5.00	26.20
10	1.59	2.08	2.56	3.25	2.36	12.90
15	2.19	2.19	3.02	4.19	3.09	13.40

1 Before Austria was incorporated.

It will thus be seen that the infant mortality rate, that is, of those infants who died during the first year of their life is conspicuously higher in India as compared with other countries referred to in the table. The infant mortality rate in India after 1910 shows a decline. It was 180 per 1000 in 1930 and 160 in 1940. The rate of infant mortality in the cities still remains alarmingly high. Thus in 1930 the mortality rate in Bombay was 298 per 1000, in Calcutta 268, in Lucknow 329 and in Nagpur 270. The casuses of this high mortality rate in cities include immature maternity, the purdah system and the primitive obstetrics. The enormous waste of life in India may also be illustrated by reference to the expectation of life at different ages in our country.

"The average length of life in India is low as compared with that in most of the Western countries ;[1] according to the Census of 1921, the average for males and females was respectively 24.8 and 24.7 years, or a general average of 24.75 years in India as compared with 55.6 years in England and Wales. It was found to have decreased further in 1931, being 23.2 and 22.8 years for males and females respectively."[2] Our vital statistics are gravely inaccurate ; still in comparison with England and Wales where the expectation of life has increased from 45.4 in 1881-91 to 60.8 in 1933, our position shows at the most a very slight improvement (according to another calculation of 26.9 for males and 26.6 for females), if not a real decline.

The following figures are the official returns of the expectation of life given in the Census of 1921 :—

	1881	1891	1901	1911
Males	23.67	24.59	23.63	22.59
Females .. .	25.58	25.54	23.96	23.31

The following table gives us the expectation of life at birth and at different ages for males and females for India and England. :—

Age	India				England			
	Males		Females		Males		Females	
	1901	1911	1901	1911	1901	1911	1901	1911
0	23.63	22.59	23.96	23.31	44.07	46.04	47.70	50.02
10	34.74	33.36	33.86	33.74	49.65	52.35	51.98	55.02
20	28.59	27.46	28.64	27.96	41.04	43.67	43.45	46.36
30	22.90	22.45	23.82	22.99	33.06	35.29	35.43	37.84
40	17.91	18.01	19.12	18.49	22.65	27.27	27.01	29.65
50	13.59	13.97	14.50	14.28	18.89	19.85	20.63	21.87

[1] The expectation of life is 67 years in Australia, 63 in England and Wales, 63 in Germany and 47 in Japan as compared to 27 years in India.
[2] "Industrial Labour in India", Geneva Report, 1938, p. 8.

The Census Report for 1931 gives us the following corresponding table for males and females in India :—

Life Table 1931

Age	Males	Females
0	26.91	26.56
10	36.38	33.61
20	29.67	27.08
30	23.60	22.30
40	18.60	18.23
50	14.31	14.65

In spite of a slight improvement as indicated by the table for 1931, it can safely be asserted that there is a tremendous loss of economic power in the country owing to the shorter duration of life. From an economic point of view, we might speak of a progressive decrease in the wealth of the country due to the fact that people who consume wealth in the early years of life are prevented by early death from contributing to the increase in wealth production, which they might have made, if they had been favoured with a longer lease of life. Thus we have a one-sided age distribution, all the more regrettable as it is not an inevitable product of geographical or climatic conditions but is largely the result of modifiable social and economic influences.

One more point of importance connected with age distribution is the heavier mortality of females as compared with males between the ages of 12 and 45; that is, between the age of adolescence and the age when capacity for child bearing normally ceases. This has a direct bearing on the net reproduction rate of our population, which is obtained by determining the number of female children born to each woman to replace the mother. This rate takes into consideration the possibility of the female child living through the period of child bearing.

In India the average number of children born to a woman is not large. The Census of 1931 gives the results of a special enquiry into 900,000 families scattered among all classes and in different parts of India. The enquiry showed that an average married woman has 4 children born alive, and that 2 in every 4 children survive. This relatively small number is not due to the adoption of birth-control practices or to late marriages. It is the result of the fact that a large number of women die before they reach the end of the reproductive period. Premature death in the case of married women has been attributed to the practice of early marriages, and the abolition of child marriages would undoubtedly increase the birth rate. It may also be noticed that the prohibition of widow re-

marriage is also a factor that accounts for the low fertility. In 1931, it was pointed out that there were 26 million widows in India or 15 per 1000 of the population, as compared with 7 per 1000 in Europe.

It will thus appear that social reform in India, whether it takes the form of the recognition of the legality of widow re-marriages, or the abolition of child marriages, or the spread of the knowledge of hygiene, or better provision for medical relief, especially in maternity cases will directly affect the birth rate and contribute to a more rapid increase in our numbers. It would be absurd, however, to forecast the population trend in the future in our country on the assumption that the present rate of our increase will be aggravated by measures of social reform. For nature and human devices will provide corrective factors which will keep down the rate of growth. In other countries where the level of education is high, the growth of population has been subjected to a voluntary limitation which substantially restricts the size of the family. In India, on the other hand, there has been a policy of drift, resting on the faith implied in the proverb, "With every mouth God sends a pair of hands," with the result as we have already seen that a high birth rate has brought in its wake a correspondingly high death rate.

Occupational Distribution

The statistics bearing on the occupational distribution of the population are of value as throwing light on social conditions and changes. They are an excellent index of the stage of industrial development of a country. The census figures should be the most important source of our information on this subject ; but, as things stand, comparisons based on the figures supplied by the censuses in our country are apt to be misleading, because of the changes that have been introduced during successive census enumerations in the character of the information collected and in the manner of collecting it. The most radical of these changes was that introduced in 1931, which for the first time made a distinction between working and non-working dependants. A non-working dependant or a dependant pure and simple has been defined as one whose earnings were too insignificant as compared with the requirements of the family. The Census Superintendent of the Central Provinces pointed out, "The distinction between workers and dependants, however clear to the trained intelligence, is very liable to be misunderstood by the average enumerator and requires much explanation. Even when an enumerator has mastered the definitions, it is often a problem for him to extract from the villagers the information needed to ensure accuracy of the record ; and obviously there are dangers of mistakes occurring in the records prepared by the less

zealous census officials."

The following table gives us a comparative view of the changes in occupational distribution of the Indian population from 1901 to 1921.

	1901		1911		1921	
	Population in millions	Percentage	Population in millions	Percentage	Population in millions	Percentage
A. Production of raw materials ..	192	67.4	221	72.7	231	73.1
B. Preparation and supply of materials ..	56	19.7	56	18.4	56	17.7
C. Public administration and liberal arts ..	10	3.5	10	3.3	10	3.2
D. Miscellaneous ..	27	9.4	17	5.6	19	6.0

The figures for 1931 do not give us any direct indication of the distribution of the total population according to its dependence on various occupations. Instead we get the following table for the four classes :—

	Number of workers in millions	Percentage of workers	Number of non-working dependants in millions	Total maintained in millions	Percentage of total population in millions
A ..	103.6	67.3	131.7	235.3	67.1
B ..	25.6	16.6	32.7	58.5	16.6
C ..	4 1	2.8	6.3	10.4	3.0
D ..	20.5	13.3	26.1	46.6	13.3

We cannot compare these figures with the corresponding figures of the three earlier censuses as the very basis of the classification has been fundamentally altered. We have no figures available under this head for the Census of 1941.

Pasture and Agriculture

The following table shows the number of persons occupied as principal workers in pasture and agriculture :—[1]

	1911 (000's)	1921 (000's)	1931 (000's)
Pasture and Agriculture .	106,538	106,394	104,147

It will be noticed that there has been no substantial change in the total number of persons following pasture and agriculture as a principal

[1] B. G. Ghate, "Changes in the Occupational Distribution of Population", 1940, No. 1 of 'Studies in Indian Economics' issued by the office of the Economic Adviser to the Government of India.

occupation. But the lack of increase is to be attributed to the changes in classification in 1931 which show under the head "domestic service" an extraordinary increase from 2.5 million occupied persons in 1921 to 3.9 million in 1931.[1] There is an equally abnormal increase under the head "insufficiently described occupations." In 1921 the total number of occupied persons was 6 million. In 1931 it stood at 7.8 million. We cannot resist the conclusion that if the old system of classification adopted in the earlier censuses had been followed, the number of the population not only of workers but including dependants in 1931, so far as agriculture is concerned, would have been 75 per cent of the total population if not more. Thus the percentage of population dependent on agriculture has been increasing as shown below :

1891	1901	1911	1921	1931
61.1	65.5	72.2	73.0	75

The following table shows the proportion of actual workers of all ages to the population between the ages of 15 and 60 and of 10 and 60 years :—[2]

	1911	1921	1931
Total number of actual workers (in millions)	148.0	146.4	146.9
Total population between the ages of 15 and 60 (in millions)	176.6	175.5	195.8
Proportion of actual workers per 1000 of population between the ages of 15 and 60 .	843	834	749
Total population between the ages of 10 and 60 (in millions)	211.8	214.7	238.5
Proportion of actual workers per 1000 of population between the ages of 10 and 60 . ..	703	682	616

It would thus appear that the proportion of workers per 1000 of the population capable of doing work has been falling during each successive census. Whereas the proportion of all workers of all ages per 1000 of the population between the ages of 10 and 60 and 15 and 60 was 703 and 843 respectively, in 1911, it has fallen to 616 and 749 respectively in 1931.

The following table shows the average daily number of persons

[1] "The apparent decline in the numbers dependent upon agricultural and pastoral pursuits between 1921 and 1931 is illusory . . . to be accounted for by a change in classification, not of occupation." Vera Anstey, "Economic Development of India," p. 61.

[2] Ghate, op. cit.

employed in factories under the Factories Act :—

Year	1911-14	1924	1934	1937	1939
Numbers (in 000's)	909	1,456	1,487	1,676	1,751

The following table shows the total number of workers occupied in industries :—[1]

	1911 (000's)	1921 (000's)	1931 (000's)	Percentage variation 1921-31
Textiles	4,449	4,031	4,102	+ 1.8
Wood .	1,731	1,581	1,632	+ 3.2
Metals and Ceramics .	1,896	1,811	1,738	— 5.0
Food industries ..	2,134	1,653	1,478	— 10.7
Industries of dress and toilet	3,748	3,404	3,381	— 0.7
Furniture industries ..	18	12	21	+ 50.1
Building industries ..	962	812	619	— 23.8
Construction of mines ..	25	23	29	+ 27.4
Production and transmission of physical force ..	7	11	24	+117.0

In view of the figures supplied in the above tables it is absurd to suggest that the pressure on the soil has not been increasing continuously during the past few years. The fall in the number of workers occupied in industry is a fall of nearly 2 millions of workers between 1911 and 1931.[2] Counting three dependants to every worker it would appear that 6.7 million people who were in 1921 dependent on the handicrafts were thrown back on the soil by 1931. There is nothing in the trend of the occupational distribution of our population in the decades between 1881 and 1931 to show a corrective process counteracting the predominantly agricultural and unbalanced economic life of India. The trend to "progressive ruralisation" often complained of has not been reversed. The increase in the number of workers employed in the organised mechanical industries, which has taken place during the last few years, plays a very insignificant part in view of the total volume of our working population. On the whole, therefore, these figures do reflect the lop-sided character of our economy with too much dependence on agriculture. The gravity of the increasing population pressure on the soil is indicated by the following table which shows the relative proportion of industrial employment during the last few decades :—[3]

[1] Ghate, op. cited. p. 26.
[2] This is an eloquent commentary on the industrialisation of our country under British Rule in the past.
[3] R. Mukerjee, op. cit. p. 204.

	1911	1921	1931	1941	Percentage variation 1911-41
Population (in millions)	315	319	353	389	+23.5
Working population (in millions)	149	146	154	170*	+13.4
Persons employed in industries (in millions) ..	17.5	15.7	15.3	16.3*	— 6.3
Percentage of workers in industries to the working population .	11.0	11.0	10.0	9.6	—12.7
Percentage of Industrial workers to the total population .	5.5	4.9	4.3	4.2	—23.6

The decline in the percentage of workers in industries to the working population, in spite of some progress in industrialisation, is a clear indication of the fact that quite a good number of workers in cottage industries are being squeezed out. The greatest sufferers are hand loom weavers. The increasing population is not being absorbed in industries; on the other hand, a proportion of those dependent on industries in the past are falling back on land. In a large number of industries, the decline in numbers involves a further overcrowding in agriculture which in turn brings poverty and indebtedness in an aggravated form. Between 1911 and 1941 the total population has increased by 74 millions. Even with an addition of a million workers in the organised industries, the total number of workers will not exceed 17 millions. On the other hand, the working population must have increased by 16 to 18 millions.

In Bombay Province between 1921 and 1931, while there was a 7 per cent increase in the number of persons employed in agriculture, industry showed a decrease of 5 per cent in the number employed. In Bengal, the decrease in the number of workers in industries is indicated by the following table :—[1]

	1911	1921	1931	Percentage variation 1911-31
Population (in millions)	46.3	47.5	51.0	+10.0
Working population (in millions) .	16.2	16.8	14.7	— 0.9
Number of workers in industries (in millions)	1.7	1.7	1.3	— 0.23
Percentage of workers in industries to the working population .	10.5	10.1	9.0	—14.2
Percentage of industrial workers to the total population	3.9	3.7	2.5	—35.8

* Estimated.

[1] R. Mukerjee, op. cit. p. 207.

This great and increasing lack of an occupationally balanced population has to be faced not by an easy optimism. Any increase in large-scale production is not likely to absorb even the annual increase in the working population by the growth of numbers. The total number of people employed in large-scale establishments in India was less than 2 millions in 1939. If the population goes on increasing at the present rate, that is, about 5 millions per year, what a colossal task it would be to absorb the surplus into industry even if we plan for rapid industrialisation ! Still less will such industrial production absorb the present surplus agricultural population. The balance cannot be restored except by developing a large number of small-scale and medium-scale industries. Such economic reconstruction cannot mean a mere blind copy of Western industrialism. It means the visualisation of a new economic order in which we have variegated production through units considered perhaps too small in the industrially advanced countries, but which will be nearer the ' optimum ' size in our country in view of the relative abundance of labour and the relative scarcity of capital. Moreover, such a reconstruction would involve a planning of the geographical distribution of industries so that they go to the village and the small town rather than get concentrated in a few cities. If such economic reconstruction is planned in the light of a social vision which will release our energies into a fresh life, freeing them from the ignorance and the poverty and the diseases which have hitherto subdued them into apathy and listlessness, we might well look forward to a happier and a richer life for our people.

CHAPTER VI

THE HUMAN FACTOR—(*Continued*)

The Quality of the Population—Infirmities

The social condition of a community can be judged positively by the standard of life to which they are habituated and negatively by statistics relating to infirmites of body and mind and statistics of suicide, vice and crime. In every country, there is a certain number of persons, who are not able-bodied, on account of some physical or mental infirmity. They are a burden on society. Their presence is an economic loss and indicates in the last analysis some defect in the social organism ; poverty, crime, vice, disease are all symptoms of a diseased body politic. It is necessary to consider data connected with these defectives, for ascertaining the causes that are responsible for them.

There are many classes of infirmities. Some of them entirely incapacitate the individual ; others only partly. Some are present from birth ; others come on with advancing age. Some people are totally blind ; others have only weak eyes. Some are only deaf ; others are deaf-mutes. A number of these infirmities are simply the accompaniments of advancing age. There are others such as loss of arm or leg, which while they interfere with the individual's full capacity for work, do not prevent him from contributing his limited share to production. Even in civilised countries it is difficult to record all cases of partial disability.

As regards India, the returns of infirmities have never been satisfactory. The Census Report for 1931 says that feeble-minded persons are returned as insane, and many who are partially blind are returned as totally blind. "In the case of leprosy it is practically certain that the Census figures in India fail entirely to represent the true state of affairs."[1] Diseases like leprosy and insanity are likely to be concealed ; different individuals may attach different meanings to insanity. It is significant that the Blind Relief Association found by a count that the totally blind in Bijapur District in 1920 numbered 260 per 100,000 as against 70 returned at the census of 1911.

The following tables give us statistics about four principal infirmities in India :—

	Number afflicted					
Infirmity	1881	1891	1901	1911	1921	1931
Insanity ..	81,132	74,279	66,025	81,006	88,305	120,304
Deaf-muteness	197,215	196,861	153,168	199,891	189,644	230,895
Blindness .	526,748	458,868	354,104	443,653	479,637	601,370
Leprosy ..	130,968	126,244	97,340	109,004	102,513	147,911
	Number afflicted per 100,000 of population					
Insanity	35	27	23	26	28	34
Deaf-muteness	86	75	52	64	60	66
Blindness .	229	167	121	142	152	172
Leprosy .	57	46	33	35	32	42
Total ..	407	315	229	267	272	314[2]

The decrease from 1881 to 1901 was attributed partly to increasing accuracy of enumeration and partly to severe famine mortality. The increase in 1931 has been attributed to the increasing survival of the unfit resulting from increasing care and alleviating measures.

[1] Census Report, 1931, p. 253.

[2] Excludes multiple infirmities.

Insanity and Deaf-Muteness

The social consequences of mental disorders have great significance. It is pointed out that more than one-half of the 438,000 hospital beds in the U.S.A. were filled by victims of mental disorders. It is also significant that the incidence of the disease does not differ as between Negroes and Whites in the U.S.A. The number of insane persons in 1931 in India is recorded as 34 per 100,000 of the population. The difficulty of procuring accurate insanity returns is illustrated by the different views entertained on the nature of insanity by Census Superintendents themselves. One superintendent says, "Idiocy is a congenital defect and one would have expected a much higher proportion of insane in the earlier age periods." Another condemns his returns for showing just such an increase on the ground that "Complete insanity manifests itself at adolescence and returns to be accurate must exclude the congenitally weak-minded." The total number of patients in mental hospitals in 1930 was 11,147, in other words, even less than ten per cent of the reported total of insanes in India.

Deaf-muteness in India is frequently associated with goitre and cretinism, and has been attributed partly to the absence of iodine salts in the soil. The geographical distribution of deaf-muteness brings out to some extent the connection between this infirmity and locality. The highest proportion of deaf-mutes for 1931 was 159 per 100,000 in Jammu and Kashmir, and 149 in Sikkim.

Blindness

No practical and uniform definition of blindness has been worked out so far. Several ready to hand definitions have been suggested, such as inability to count upon the hand at a distance of 12 inches, or to recognise a human face. In the U.S.A. the total blind population in 1920 was computed at 74,500. The Census Superintendent of Madras says in the Report for 1931, "The chief tragedy of blindness is that so much of it in India (probably more than half) is preventable, and that the majority of incurably or partially blind become so when infants or young children. We are apt to dwell too much on cataract and forget the large share which parental folly and neglect, improper food and housing play in producing the 50,000 blind recorded in this presidency. Blindness from cataract is of less importance, is associated with years and is curable . . . Ophthalmia Neonatorum, syphilis, small-pox, peratomalacia, on the other hand, as causes of blindness, all mark their victims before adult years are reached."[1] In Western countries, it has been recognised that the one desirable means

[1] Census Report for 1931, p. 261.

of affording financial help to the blind, who cannot support themselves, is through some plan of social insurance by which compensation is granted on the occasion of the loss of sight. In the U.S.A. this principle is embodied in Workmen's Compensation Acts.

Leprosy

"It has been estimated that there are no less than five million cases of leprosy in the world, and it is probably correct to say that of that number approximately one million are to be found in India."[1] "The Census figures should be multiplied seven or eight times in order to arrive at a reasonable estimate and the figure of one million is not likely to give an exaggerated picture of the actual position."[2]

Leprosy in India is a disease in which concealment is easy and likely to be obstinate. Concealment, particularly in the case of women, is easy under the purdah system. The Census Superintendent of Bihar and Orissa writes in 1931, "Doubtless men are more liable to develop this disease than women are, but the extent to which this is true bears no relation to the disproportion exhibited by the Census figures which can only be due to systematic concealment."

Deficiency Diseases

While discussing the positive checks in an early chapter, we have pointed out the heavy toll of life due to cholera, plague, influenza and malaria. We have also given comparative figures of mortality rates for certain diseases. All these diseases affect the vitality of the people and the quality of the population. About 50 per cent of deaths are classified as due to "fever"—a very vague term. Many of these are the results of malnutrition and semi-starvation, and so are "deficiency diseases."[3] It may be noted that cholera, small-pox, plague, fevers, tuberculosis, dysentery and diarrhoea etc., may be considered to fall under the heading "diseases of poverty," and most of them are preventable. If the quality of our population is not what it ought to be, due to these diseases, it should be attributed to the lack of adequate preventable measures and malnutrition. A properly planned society which aims at removing evils of inadequate and unwholesome food would certainly improve the quality of the stock.

Literacy

The importance of education even from a purely economic point of

[1] Public Health Commissioner's Report for 1936, p. 74.
[2] *Ibid*, p. 75.
[3] Chapter on "Problems of Consumption" for a discussion of malnutrition and deficiency diseases.

view has become a commonplace. It is a pre-requisite, not only of economic progress, but of that larger and fuller life which we regard as our common human heritage.

For the purposes of census literacy has been defined as the ability to write a letter and read the answer to it. In 1881, the total number of literates was 46 per 1000 in the whole of India. In 1921, the proportion rose to 71 per 1000. In 1931, it was 80 per 1000 which has arisen to 121 in 1941. Taking the figure of literates for persons aged 5 and over we obtain the following table :—

	Literates per 1000 aged 5 and over	
	1921	1931
Males ..	139	156
Females .	21	29
Persons	82	95

The following table shows the number of literates per 1000 in some of the Provinces and Indian States :—

Provinces	Number of persons		Provinces	Number of persons	
	1931	1941		1931	1941
Bengal . ..	111	161	U.P. ..	55	84
Bombay ..	108	195	Bihar and Orissa ..	53	95
Madras ..	108	130	N.W.F. Province ..	49	79
Assam	93	113	Cochin .	337	354
C.P. .	66	114	Travancore .	289	477
Punjab .	63	129	Baroda	209	229

The following table indicates the literacy per 1000 aged five and over in different communities, according to 1931 Census.[1]

Community		Total	Males	Females
All India	..	83	138	23
Parsis		791	845	734
Jews	..	416	488	338
Jains	..	353	582	106
Christians	..	279	352	203
Sikhs	..	91	138	29
Hindus	..	84	144	21
Muslims	..	64	107	15

Taking the comparative figures for 1921 and 1931 by communities, it appears that whilst other communities show progress, there was a decline in the literacy of the Parsi community by 3 per cent in ten years and in the Christian community by 6 per cent. The Census Report

[1] P. 328. Figures for 1941 are not available.

attributes it to economic depression so far as the Parsis are concerned. As regards Christians, it is attributed to the inclusion of illiterate converts.

Literacy in English increased among all communities in the period 1921-31 except among the Christians, where it failed to keep pace with the growth in numbers. The following table gives us the literacy in English in different communities in 1931 :—[1]

	Number per 10,000 aged 5 and over literate in English		
Community	Persons	Males	Females
All India ..	123	212	27
Hindu ..	113	204	16
Sikh ..	151	251	21
Jain ..	306	571	20
Buddhist ..	119	207	26
Zoroastrian ..	5,041	6,396	3,592

	Number per 10,000 aged 5 and over literate in English		
Community	Persons	Males	Females
Muslim ..	92	164	11
Christian ..	919	1,174	649
Jew ..	2,636	3,492	1,710
Tribal ..	4	7	—
Others ..	28	47	6

According to the Census Report of 1941, so far as literacy is concerned, "The general tale is of pronounced increase amounting in the case of India as a whole to 70 per cent over 1931 for the whole population. Of this the male increase is 60 and the female 150. There was of course an enormous field for improvement of female literacy. For the provinces the increase is 80 and for the States 70, with the sex components more or less the same. The most remarkable figures are returned by the Punjab which professes a 140 per cent increase to a present literacy of 13. This figure covers 110 per cent increase for males and no less than 390 per cent for females. One would prefer to wait for a definite sorting based on examination of the slips before further discussion of such phenomenal figures. The record for the U.P. seems *prima facie* more in keeping with general observation and experience. Here the literacy figure is below that of other areas and all major provinces and is still only 8 per cent for the whole population but the decade increase is 80 per cent all over, 70 for men and 170 for women. Even now, however, the percentage of literacy among women is only 2. Bombay leads the provinces, as it did in 1931 and shows also an increase of over 100 per cent to produce a 30 per cent literacy for males and 9 per cent for females. Bengal follows

[1] Op. cit. p. 339.

with 16 per cent all over, representing 25 for males and 7 for females."[1]

Our progress is terribly slow and such a rate of progress would take decades to have a fully literate population. When we compare the results achieved by Soviet Russia which started in 1917 practically at the same level of illiteracy and liquidated it almost completely by 1936, there is no reason why the same results cannot be achieved by us in a properly planned society.

Retrospect and Prospect

We have now considered the problem of population in its main bearings and have to face a twofold question : Is India over populated ? Are we too many ? And the further question if we are too many, what can we do towards the establishment of a better social order in which our population will be adjusted to our new economic standards of a civilised existence ? If we are reconciled to our present miserable existence—miserable not only because of our poverty, but because of a lack of sense of the dignity and beauty and value of human life which poverty brings in its wake—we may regard our present numbers with equanimity and may comfort ourselves with the thought that we are not too many. We may even look unconcerned at future increases in our numbers, so great is our power to put up with the privations resulting from increasing poverty, and so earnest our desire to preserve the social institutions and principles of earlier days. If, on the other hand, we are thinking ahead of a new India where our people will live, not on the level of abject poverty, but on a level which will ensure to them a healthy, efficient and cultured life with opportunities for creative work for increasing numbers, the reflection will force itself upon us that there is something fundamentally wrong with our present population trend, and that we need to plan our economic life and our social environment so as to lift up our people from the present enervating struggle for existence and free them from the listlessness to which their poverty has consigned them.

The problem of India's population affects almost every aspect of economic life, and has a profound significance for the future of the country. In any scheme of social or economic or political reconstruction, the present size of the population and the rate at which it is growing

[1] Census of India, 1941, Vol. I, Part I, pp. 31-32. It is surely surprising that the Census Report should give figures in percentage increases which do not give us a correct picture of the state of literacy. The figures suggest a tremendous improvement. There can be no doubt that, whatever real increase in literacy has taken place, is due to the great literacy drive under the Popular ministries and particularly the Congress Ministries. Taking the real rise in a decade, the picture is still very gloomy. It needed ten years to increase the literacy from 80 to 121 per thousand.

have to be taken into account. We have indicated to what extent our present numbers are an obstruction to our future national welfare; judged from any point of view, a reduction in our numbers or at any rate a check on further increase appears to be an urgent necessity. We do not contend that our people should be raised to that artificially high standard of living to which in the West a few nations may have attained. "There is nothing morally wrong in a man being a vegetarian and a teetotaller and his wife and children being able to live very much more cheaply than people who adopt the European standard of comfort."[1] To live on simple fare so long as it is nutritious is not a crime. It was Lord Crewe who in 1911 denounced on this ground the attempt to exclude Indians from employment on vessels trading to the ports of New Zealand. But the simplicity of life in India is a simplicity of a very different kind. The poverty of the Indian peasant and villager means "want, insecurity, and utter inability to provide for the most elementary needs of life. It is a cruel mockery to exhort the bulk of our people, to reduce their wants or ask them to be true to the wisdom of the East, when the majority of them are suffering from utter want and starvation."[2]

There has been a certain amount of confused thinking on this question. Some of us, distressed by the sordidness of policies adopted by the so-called advanced countries in the interests of a higher standard of life, have simply raised our hands in horror and cried out, "No, not for us. Far better our age-old ideal of 'plain living and high thinking'". It is not difficult, however to see that this defeatism is unwarranted. In regard to this question, as in regard to many others, there is a golden mean, a sort of an optimum, which is calculated to bring out the best in man. Any standard of life below this is an open invitation to poverty, misery and crime. A standard above it may mean aggrandisement at the cost of others, the pursuit of wealth for its own sake and of power that it may bolster up this insatiable greed.

No one who has carefully followed the history of the population problem in India in its different phases can dispute the statement that there are more people in India than the soil and its present productive capacity can support. "By far the major part of Indian manpower is underfed, diseased, illiterate and unskilled ... The per capita food supply is much less than one-third that in the U.S.A. Even with 'plain living and high thinking', which has been the ideal of Hindu civilisation, one is inevitably driven to the conclusion that there exists in India to-day, under the present state of her industrial efficiency, double the size of the

[1] Lord Crewe quoted by Gyan Chand, op. cit. p. 318.
[2] Gyan Chand, op. cit. p. 319.

population which could live with a moderate degree of opportunity for moral and national development."[1]

The Census Commissioner for 1931, Dr. Hutton, has contended that the maximum population possible is very far from identical with the maximum population desirable, and "that the point has not yet been reached at which the ability of the country to feed its occupants is seriously taxed." He further says : "Generally speaking, the maximum density of the agricultural population can be far greater in India than in Europe, not only on account of the greater fertility of the land but on account of the diminution in the absolute necessities of life corresponding to a less rigorous climate." Whilst Dr. Hutton is prepared to recognise the difficulties connected with excessive subdivision and an abnormal surplus landless population, he seems to view unconcerned the prospect of a further increase in our population. The same unconcern seems to underlie the view expressed by Dr. P. J. Thomas[2] and Mr. D. G. Karve[3] that production in India has been increasing faster than population.

In our analysis and review of agriculture in India, we have endeavoured to point out how, under present conditions and with present methods of cultivation, our agricultural population sunk in poverty, dragged into the vortex of price fluctuations in the international market, dependent on the freaks and uncertainties of rainfall, has been forced by the pressure of circumstances into a starvation standard in spite of a fertile soil—a standard which is threatened with prospects of a further deterioration due to increasing numbers. We propose to consider in a separate section the relation of our food resources to the population ; but the fact that we have reached the saturation point has been emphatically expressed in the actuarial report appended to the Census Volume of 1931. Mr. Vaidyanathan quotes in the first place Carr Saunders : "Infanticide was employed in India and China until recently ; it has now been abandoned, and no other method of keeping the size of the families small has taken its place. An examination of the social conditions suggests that the people are not living as well as they might ; famines are not uncommon, and are never far off. The symptoms point to overpopulation, of which the cause would seem to be the failure to replace the custom of infanticide by some other method of regulation." He further adds : "No greater proof is required of the fact that what primarily

[1] R. K. Das quoted in "The Situation in South and East Asia" by Col. Sir Charles Close, "Population," Vol. I, No. 1, 1933.

[2] "Population and Production" (1921-32) Indian Journal of Economics, Vol. XV, 1934-35.

[3] "Poverty and Population in India," 1936.

ails India is over-population than the miserably low standard of living of the masses. . . . To subject the soil to increasing pressure of the addition of nearly 34 millions in a decade[1] when the standard of living is proverbially low is a situation that should cause real alarm in the minds of the well-wishers of India. Without an addition in real wealth, of at least the same extent, of which there has been no very large indication, the existing low standard of living is sure to be depressed further, leading to further over-population and consequent increase in the loss of spirit of enterprise. For successive generations of life on less than a bare margin of subsistence and the natural indolence and despondency which such a state engenders have probably made the majority of Indians abstain from making any strenuous effort to raise their standard of living, which could be achieved, in the first instance, by limiting the size of the families. Being itself both the cause and effect of over-population, the low standard of living of the average Indian completes what is called the 'vicious circle.' "[2]

Those, who take a more sanguine view of the problem, have in view, we are aware, the vast potentialities of our resources. True, our resources are vast. True, the achievements of modern science have been miraculous. Yet, when all this is admitted, we must not allow ourselves to be swept off our feet by vague generalisations as to potentialities. What rate of growth of technical progress should we count upon during, let us say, the next 25 or 30 years ? That is the primary question in this context. The moment we ask ourselves this question, we are face to face with the wide gap that is likely to persist for at least a generation or two between our expectations and our performances, a gap which should make us pause and ponder. Economic planning, as we have throughout insisted, is unthinkable except as an aspect of social planning, and no social planning is worth its name which refuses to evolve a planned population policy. This has obvious social and political implications, some of which are pointed out below.

Possible Remedies

It is obvious that the only answer to the question " Is India over-populated ? " is an answer in the affirmative. Assuming the presence of over-population, we have to ask ourselves what we can do with these distressingly large numbers to alleviate their sufferings with the help of the resources at our disposal.

There are three directions along which we may seek for relief so far as numbers are concerned in the immediate future : (1) There is the

[1] This refers to 1931. We have added another 36 millions by 1941.
[2] Census Report, 1931, p. 150.

method of relieving population pressure by the possibility of migration outside the country or by a redistribution of the population inside the country. (2) There are a number of economists who look to a system of planning our production, both agricultural and industrial, on such a large and intensive scale as to increase our national income within the next few years to double the present amount. There are those who believe that if we cannot immediately reduce our numbers except by such calamities as are beyond our control, we can, at any rate check the further growth of our numbers, by limiting the size of our families through the spread of the knowledge of birth control.

Emigration

When Western economists and demographers talk of emigration as a remedy for over-population, they have in mind only the White people. The Asiatic people never exist in their calculations, though Chinese and Indians are the only people who really need the help of emigration to solve their problem. Emigration outside India as a measure of population relief is a matter beyond the control even of a free India. The total number of Indians living abroad has been estimated at roughly 2½ millions. About a million and a half live within the British Empire, mostly in Ceylon, Burma, Malaya, Mauritius, British Guiana and South Africa. As regards Ceylon and also Burma, events before the outbreak of the war in 1939 distinctly indicated a growing opposition against the settlement of Indians in those territories. We do not know what a restored Malaya will do at the end of the war. It was, however, a familiar cry before the Japanese occupation of Malaya, that Malaya could not accommodate any more Indians. As regards Dominions like Australia, Canada and New Zealand, they have definitely adopted a policy of keeping their territories as a preserve for future occupation by the Whites exclusively. Under the quota system ever since 1922, the U.S.A. have definitely adopted a policy of discrimination against the Asiatic races. The disabilities from which Indians suffer in South Africa, East Africa and Kenya are likely to increase rather than decrease as recent events like the passing of the 'Pegging Bill' in South Africa foreshadow. Under these circumstances, we cannot look for relief with regard to our numbers in the immediate future to migration abroad. We will have to maintain our population on our own resources.

With regard to the redistribution of our population inside our own country, whatever possibilities of redistribution do exist, they do not justify any hope that it can materially help in solving our problem. Looking to the total extent of the land classified as culturable waste, it might be thought that 93 million acres of such culturable waste might offer

reasonable opportunities for the settlement of our surplus population. It was pointed out, however, by the Agricultural Commission—a statement that has been contested—that much of this land could not be brought under tillage, and that "the statement reported annually in a volume which is issued under the imprimatur of the Government of India, that very nearly one quarter of the total area of British India is culturable but not cultivated, is calculated to give rise to misconceptions which it would be well to avoid."[1] Even recognising that these limitations exist, it would not be inappropriate to stress the necessity for gathering and supplying information to the public about the potentialities of the land in each province classified as culturable waste so as to help the migration of population from one part of the country to another.

Apart from these general considerations, if we look at a few actual figures, it appears that the total number of emigrants from the United Provinces was reduced from 15 lakhs in 1901-11 to 9 lakhs in 1911-21 and 10 lakhs in 1921-31. In Bihar and Orissa, the number of emigrants was reduced from 15 lakhs in 1901-11 to 13 lakhs in 1921-31. The following table shows the movement of population from province to province:—[2]

Provinces which send out emigrants	Gain or loss per 1000 of the population			Percentage shown to total area	Population per 100 acres of cropped area
	1911	1921	1931	1931	1931
Bihar and Orissa	— 37	— 40	— 37	47	152
United Provinces	— 15	— 20	— 21	53	135
Madras ..	— 30	— 35	— 20	37	140
Provinces which receive emigrants					
Assam .	+114	+152	+144	16	150
Bombay	+ 14	+ 18	+ 19	41	213
Bengal ..	+ 30	+ 26	+ 12	49	113
N.W.F. Province ...	+ 31	+ 39	+ 6	27	61
Central Provinces .	+ 27	+ 13	+ 4	39	84

Bengal in spite of her high rural density attracts a considerable number of emigrants to her factories and cities. The land system and the literary bent of the Bhadralok make the indigenous population averse to industry and trade. So far as the United Provinces and Bengal are concerned, the pressure of population accounts for the emigration to Assam, Burma and the N.W.F. Province.

It is impossible, however, to shut our eyes to the new forces of inter-

[1] Report, p. 605.
[2] R. Mukerjee, op. cit. p. 202.

provincial jealousies and rivalries that have been brought into play during the last ten years and which have been unfortunately aggravated in the name of Provincial Autonomy after 1935. A Federal form of Government for the whole of India which would include the Indian States may have its advantages, but a Federal form of Government for British India, giving the Provinces a free hand in planning their separate economic life might be more harmful than otherwise in the larger interests of the country as a whole. Only recently, we have witnessed the reluctance of provinces with surplus food to part with such surpluses ; and it was the heavy pressure of the Central Government that he had to be brought to bear upon them due to the food crisis that has led these Provinces to revise their policy.

Increase in Production

Apart from migration or redistribution, we may, it is said, so plan our economic life as to increase to a phenomenal extent our total annual income both through the development of our agriculture and the intensification of our industrial production. As regards agriculture, we have discussed elsewhere in detail the possibilities of increasing our agricultural production in the future. Given the existing framework of economic society, the changes in agriculture, which are within the range of practical politics, include measures like improved varieties of crops, control of crop pests and diseases, extension of irrigation, better use of manures, the use of artificial fertilisers and better implements of cultivation. But so long as the basic obstacles to the development of Indian agriculture are not removed—and these include fragmentation and subdivision, the enormous agricultural debt, and the equally enormous surplus agricultural population—it would be futile to hope for any substantial improvement in our agricultural production. This does not of course preclude the possibility of transforming our whole agricultural organisation with the adoption of a carefully planned long term agricultural policy. If a country like Japan, with resources immeasurably more limited than those of India, could within the space of a few years transform her economic life so as to enter the world market in competition with other countries, and if Soviet Russia could similarly mobilise her resources for lifting a population of agricultural serfs into a population of contented peasants, there is no reason why a similar reorganisation of our economic life may not be achieved, given a definite objective and the power and will to pursue it.

As regards industrialisation, the outbreak of the present war has given us opportunities for the development of industries, which under present limitations would have enabled us to accomplish in two years

what would otherwise have taken twenty years to achieve, if there had been proper planning. We have indicated in our sections on industry the possibility of developing a new type of industrialisation, which will enable us to reconcile our small cottage industries with large-scale production. We are not oblivious of the fact that under the policy of discriminating protection there has been a growth in the investment of foreign capital in Indian industries. We are not also oblivious of the enormous amounts of foreign capital invested in Indian enterprises during the last hundred years. We have also to recognise Gandhiji's attitude on the question of large-scale production. But the fact remains that we have already industrialised ourselves, and that however much we may disapprove of evils which accompany modern industrialism, we cannot go back to a pre-industrial economic order.

Will industrialisation on an increasing scale solve our population problem ? It is necessary in this connection to call to mind a few facts. Large-scale industry to-day occupies roughly two million workers. Counting three dependants to every worker, the total number of dependants on large-scale production will not exceed eight million souls. Our total population dependent on industries to-day must be not less than 38 millions. In addition, we have to take account of the surplus population dependent on the soil, the landless labourers, whose number has been variously estimated at between 80 million and 100 million. Will industrialisation, on however large a scale it is organised, succeed in absorbing about 120 million people, including dependents ? Those who, assuming no radical alteration in the economic structure, talk like Sir M. Visvesvaraya of capitalist enterprise helping in the intensification of our industrial production and thus solving our population problem, seem to forget the elementary principle that machinery means the displacement of human labour on an ever increasing scale. If in Western industrialised countries, omitting for the moment the enormous destruction that has taken place during the last four years of war, the saturation point had already been reached, so that the growing number of the unemployed could not be absorbed in increasing production, can we entertain any reasonable hope of so expanding our industrial production under the present capitalist structure as to absorb even a quarter of our huge surplus population ?

The conclusion inevitably forces itself upon us that increased production by mechanical methods, both agricultural and non-agricultural, not by itself rapidly relieve the pressure of population. Even in the ss and strain of the war, the fighting nations in the West have been nning for the distribution rather than the increased production of

wealth as witnessed by the Beveridge report. We in India are still in the early stages of a capitalist industrial order. If our growing numbers are not to frustrate whatever benefits increasing production on a large scale is to bring to us, we must think in terms of distribution as much as in terms of production. It is possible for critics to tell us that there are no prospects of any radical change in our political life to justify a carefully adumbrated economic reconstruction policy. Such critics will tell us that capitalism will be more and more strongly entrenched in the country backed by reactionary forces, and that to speculate about the possibilities of a new economic era is futile. To such critics our only reply is that the tempo of economic and political changes during the last 25 years might well make us think in terms of a new order which will secure for our countrymen the opportunities for a healthier and a fuller life such as have been denied to them so far.

Control of Numbers

It is difficult in a sense to speculate about the future of the Indian population. As regards Western countries between 1876 and 1926, there was a marked decline in the birth rate ; though the immediate effect of this decline was offset by a declining death rate, the prospect of a reduction in the numbers of the White population was set in the background of an increasing population in India and China. It was forgotten that the relative proportions of the European and Asiatic communities have changed in favour of the former.

The declining birth rate in the West was partly the result of the use of birth control, a practice which at one time was regarded as sinful and condemned by the Christians. But even to-day, there are not wanting leaders of thought, apart from the Churches, who revile birth control as 'racial suicide', perhaps inspired by the fear of being outbred by some imaginary 'inferior race'. The patriots concerned about the necessity of out-rivalling hostile neighbours in numbers stress the duty of bearing children. France wants more soldiers. Italy's destiny is to revive the glory of the Roman Empire. Even in Great Britain there is growing alarm at declining numbers. There are others who advocate birth control not for themselves who are the elect and chosen, but for the inferior masses who by their rapid multiplication may bring about racial deterioration.

In any discussion of birth control, it is desirable to keep distinct the two different issues, the economic issue of an increasing population sunk in poverty like that of India and the issue of improving the race by selective breeding—a question more for the biologist than for the economist. If we thus distinguish between the purely economic bearings of the birth

control movement and the eugenic problem of improving the race, we would not only avoid confusion of issues but we shall be able to take a more objective view of the problem so far as it bears on the question of numbers. The experience of the last half a century abundantly shows that with a high standard of life, the responsibilities of parenthood are increasingly recognised and human beings are extremely ready and willing to limit the size of the family from prudential motives. It may also be pointed out that the family limitation characteristic of the richer classes may depend to some extent on socially undesirable qualities like love for luxuries instead of family affection.

It must be remembered, however, that mere limitation of numbers will not by itself solve the problem of our poverty. If birth control measures have a place in the economic planning of India for the future, such measures can only be part of a larger planning including within its scope, not only the intensification of our production, but likewise a social and educational reorganisation of our national life based on an appreciation of values, which would not subordinate the pursuit of truth and beauty and goodness to the greed for wealth and possessions. Birth control leagues have been formed for the purposes of propaganda in a number of countries including Holland, Germany, France, Spain, Belgium, Italy and Mexico. Mrs. Sanger, one of the leading advocates of the movement, toured the world in 1922 arousing considerable interest in Japan, China and India. Of late, restrictive measures have been adopted in France and Italy and in the U.S.A. The law forbids the mailing of printed matter or any device designed to prevent conception. A number of the States in the U.S.A. make the giving of contraceptive information a crime.

The principal objection to the movement on moral grounds has come from the representatives of orthodox religions, especially the Roman Catholic Church. They argue that children constitute the socially necessary culmination of marriage. The same view finds expression in the writings of Gandhiji who regards sexual union without the desire for children as wrong and immoral in the case of married people. Such arguments seem sound against induced sterility but not against an intelligent regulation of the size of the family. The support of a small family on a decent standard of life makes for discipline and a healthy family life much more than unrestrained reproduction with a large progeny struggling for existence. Catholics, moreover, do not oppose the limitation of families as such, but the use of artificial checks. So also does Gandhiji. "It is one thing when married people regulate the number of their progeny by moral restraint, and totally another when they do so in spite of sexual

indulgence and by means adopted to obviate the result of such indulgence. In one case people gain in every respect ; in the other there is nothing but harm."[1]

It is obvious that the opposition to birth control is based upon the nature of the means employed rather than with reference to the motives. There can be no more effective reply to this objection than the one given by the British Committee on the Ethics of Birth Contral. " Civilization itself has been the story of man's control over nature, mainly by mechanical means. Medical opinion has been somewhat slow to support birth control, but the Medical Committee of the British National Council of Public Morals has declared unanimously that ' no impediment should be placed in the way of those married couples who desire information as to contraceptives, when this is needed for medical reasons, or because of excessive child bearing or poverty ' ". With wider use of contraceptives, health and longevity have increased, and infant mortality has decreased. It has been also pointed out that birth control has resulted in the advancement of material well-being, in the elevation of the status of the wife, and in the promotion of the health and education of the children when the intervals between them are adjusted to parental health and resources. As a matter of fact, in Western countries, public opinion largely looks upon the large families of earlier generations as evidence of improvidence and unrestrained sexual indulgence. Control is regarded as a primary means of attacking poverty and of elevating social life above the level of reproduction and food-getting. The frequency of destructive wars, finally, has raised in many a family doubts about raising sons and daughters only to be fodder for the guns and bombs.

It must not be forgotten, however, that birth control as a method for limiting numbers will always be a question of individual choice, and that a national policy in this behalf imposing measures for the limitation of population can only be successful in the sense that it may influence public opinion, so that social considerations should carry great weight with individual parents in deciding about the size of their families. A national policy with regard to population is only possible in the form of propaganda through the cinema, the radio, and the press, awakening the masses into a sense of their responsibility towards the generations yet unborn.

Returning to the case of India, if our country is over-populated and if any addition to our present numbers is to be regarded as undesirable, to what extent can the birth control movement help us in restricting our

[1] M. K. Gandhi, " Self-Restraint versus Self-Indulgence," p. 8.

numbers ? The birth control movement in India is just in its infancy. It has been publicly advocated by a number of medical writers. A Neo-Malthusian league has been formed in Madras supported by Maharajahs and High Court Judges. The Census Report of 1931 even suggests that "In view of the present rate of increase efforts to reduce the rate of infantile mortality should be preceded by precautions to reduce the birth rate, and that if the luxury of 'baby weeks' be permitted, they should at least be accompanied by instructions in birth control." Subhas Chandra Bose in his presidential address at the Haripura Congress advocated a definite restriction of numbers. The All India Women's Conference stressed the necessity and desirability of making birth control knowledge available to the people of India. The Mysore Government has established birth control clinics in the principal hospitals of the state, and a few clinics have also been established in other parts of India.

We cannot overlook the difficulties of introducing contraceptive methods in a country where the vast majority of the population look upon a large family as a token of God's blessings, and regard the reproach of barrenness as a terrible punishment for crimes committed in earlier lives. The practice of universal and of early marriage is a social custom and not necessarily followed from religious motives, though it is religious arguments which are resorted to whenever people want to oppose a change in social custom. We must also take into account the difficulty of converting the masses of India into support of the birth control movement. They are not in a position to read any literature on the subject. Political organisations like the Congress and the Muslim League will not actively support the movement. It has been said that as a rule politicians who canvass votes are not likely to risk the support of their voters by advocacy of such measures.

It is really a tragedy that a personality like Gandhiji who has such an immense hold on the masses should be opposed to modern methods of birth control, and should advocate mere self-restraint to solve the problem of large families. Not only that, but he has condemned birth control methods and this makes the task of propaganda very difficult. One wonders why he should regard contraceptives alone as unnatural and not the eye-glasses. A more serious difficulty is that of suggesting a suitable contraceptive which will be acceptable to the masses and which can be made cheap enough to be brought within their means. In a country like India not only do doctors as a rule know little about the scientific side of birth control, but nine out of every ten villages are practically without doctors and dispensaries.

If, therefore, the movement for birth control is to be promoted in India as a measure of national reconstruction, it must be made part of a larger programme, which should aim at providing an adequate health organisation which should disseminate information amongst the people through personal advice by health visitors. Social awakening sometimes comes not by slow stages but miraculously fast. Economic discontent may be a more powerful medium for social change than education or propaganda. In the West, the movement has spread in spite of the opposition of the Churches and the state. In the new order, with an enlightened Government, with modern methods of propaganda at its disposal, a new generation may be brought up, prepared to challenge age long traditions and to establish new social norms. For, the control of population, as we have already suggested, is not a matter for legislation or for executive action but a matter that lies entirely within the choice of individual parents, who may be educated into a sense of their social responsibilities, so that in determining the size of families they may keep in mind the welfare of future generations.

Concluding Remarks

As we have already said, the population problem in the next thirty years will be the impact of growing numbers on our ill-balanced economic and social structure. Hence, the population policy will have to be rationally integrated in a planned economic policy based upon a broader social policy. To achieve such an objective, we shall have to fight on all fronts, political social and economic.

The difficulties against which we have to contend are the difficulties associated, in the first place, with our inability to plan our economic life according to our conceptions. In the second place, there are difficulties in connection with the vested interests, foreign and indigenous, of the zamindars and landlords, capitalists and industrialists, the Maharajas and rulers of Indian States—the relics of medieval feudalism. These are likely to be increased by minority groups, large or small, whose conception of their own interest might conflict with the larger interests of the community as a whole. It must be remembered, however, that the new economic order that we envisage would be one which is only feasible on an all-India basis and in which there can be no rights without functions. But, in view of the difficulties mentioned above, however ardent and earnest our desire to plan our economic life on a comprehensive basis, it will have to be subordinated to the immediate necessities of political compromise except in the case of a successful revolution.

If these difficulties are overcome—and let us hope they will be

without unnecessary sacrifice of our larger economic objectives—and unity of purpose is secured between the various warring and conflicting interests, our difficulties with regard to the future will not be ended. They will have begun ; for we have to plan our national life in all its phases. In this planning, we shall have to face the problems of our social pathology—poverty, misery, disease and crimes—problems that are directly or indirectly connected with our growing numbers.

It has been said that "planning is impossible without unity of objective, purpose and action," that we are living in a world of uncertainties and violent changes, where what we have planned for to-day will become irrelevant to-morrow, and that "a country which finds itself in the throes of a political struggle, the end of which cannot be foreseen, cannot possibly undertake the overhauling of its economic and social life."[1] Even assuming that our supreme pre-occupation for the moment is the acquisition of power to shape our own destiny, it would not be wise to wait in the matter of defining our objective, and the machinery by which it is to be carried out till the power is acquired. Even as in the midst of the war which is being fought to-day, statesmanship demands a definition of peace aims and preparation for realising these aims, so is it desirable that we in India should not only define our aims but likewise the type of mechanism, social and economic, by which these aims can be carried out. No one can refuse to admit that there is much about population phenomena that is still unknown, and much more that cannot be brought under human control. We may not know how to plan a population, but we can plan *for* a population. Such planning will involve measures for conserving our soil resources, for diversion of land to sound uses, for the shifting of population from one part of the country to another, for adequate training and education of the masses, for the organisation of some form of collectivism and socialised democracy, which will make bread and shelter as freely accessible to everyone as water and the use of roads now are in civilised countries.

[1] Gyan Chand, op. cit. pp. 227-28.

CHAPTER VII

AGRICULTURE

Introduction

Agriculture has always been the primary industry of India even from early days. The proportion of population dependent on agriculture has risen from about 65 per cent in 1872 to 75 per cent in 1940. Nine-tenths of the teeming population of the country still continue to live under rural conditions, and even the factory labour of the towns as well as the commercial classes continue to retain their connection with the villages from which they have migrated. But whilst the predominantly agricultural character of Indian economic organisation is a matter of common observation, there has not been an equally common recognition of the vastness and variety of our agricultural production and our agricultural resources. This country has always occupied an important position in the world amongst producers of primary products, both in the shape of food crops and raw materials. It is a position which has not been usually recognised, partly because of the general ignorance and indifference in the West to Eastern regions, and partly because the inferior status of the country as a dependency has overshadowed the relative significance of the volume of production inside the country. The agricultural production of India was directed during the last hundred years towards securing an exportable surplus of raw materials to meet India's obligations resulting from her connection with Great Britain and not to meet her own requirements.

From the point of view of existing conditions, India to-day has all the total area of the world that is under jute crop, one half of the world area under rice and one-third under cotton as will be seen from the following table :—

Area under certain crops in India a compared with the world total (1940)[1]

	In Millions of Hectares		
	Total area of all countries	Area in India Actual	Percentage of
Jute	1.27	1.26	99.2
Rice	60.00	29.2	48.6
Cotton	31.3	9.26	29.4
Linseed	7.8*	1.1*	14.1
Wheat	102.6	13.76	13.4
Barley	38.6	2.6	6.8

[1] League of Nations Statstical Year Book, 1941.
* Figures for 1936.

In production of some of the staple agricultural commodities we find that India produces about 52 per cent of the world's total production of groundnuts, 98 per cent of the total production of jute and 15 per cent of rice.

It was the outbreak of the war in 1939 that brought with it a clearer recognition of the importance of India and its possibilities in the shape of its agricultural resources. But, however hopeful we may grow at the prospect of the increasing recognition of our agricultural potentialities, we would do well to keep in mind a few considerations bearing on the larger and long run welfare of our country. In the first place, our primary problem is that of adjusting our food resources to the growing population of our country. Under a competitive system, the prospects of expanding our land resources by bringing uncultivated land under cultivation are very limited. In the second place, it is not to the larger interest of this country to accept a scheme like that to which the Eastern group Conference would commit us, resulting in the exploitation of our agricultural resources in the interests of the Empire. Such a scheme would mean agricultural expansion in a wrong direction. It also implies that India should devote its attention only to agricultural developments and means the perpetuation of a system in which this country will have to play the part of exporter of agricultural products in return for the imports of manufactures and machinery. If the price India has to pay for such limited agricultural expansion is the abandonment of a programme of developing the heavy industries, we doubt if it is worth paying.

The future agricultural expansion of India must in the main be directed to the satisfaction of the internal needs of the country in the shape of food and other primary products. It must also be determined by the consideration of the problem of supplying such raw products as may be consumed by our industries. The large scale, for example, on which we are raising oil seeds of all kinds suggest vast possibilities of using them in the building up of new industries like paints and varnishes, oils and dyes for internal consumption. If these results are to be achieved, we need, not the private enterprise on a profit-making basis such as has marked the growth of economic life in the West, and which has led to economic chaos, but a corporate planning of our national life involving the adjustment of our production to our needs.

When a Viceroy of India as early as 1869 observed that the duties which in England are performed by a good landlord have in India mainly to be discharged by the government which alone can command the requisite capital and knowledge, he could not have anticipated the

acuteness of the agricultural problem, as it faces the country to-day with its vastly larger population and greater poverty. It was a striking recognition, however, of the principle which should underlie all attempts at dealing with the agricultural situation in India—the principle, namely, that only the state with all the resources at its command can organise and plan the future utilisation of our agricultural resources.

The principal uses to which the land of any country might be put include cultivation, forests and grazing land. There has also to be taken into account land used for residential purposes in towns and for industrial and mining purposes. The problem of land utilisation has only recently attracted attention in civilised countries. The National Conference on Land Utilisation held in the U.S.A. in 1931 called attention to the need for an inventory of the nation's soils classified on the basis of their agricultural value, and for a programme of soil conservation whereby damage from erosion, destruction of organic matter, overgrazing and flooding might be reduced to a minimum. Out of this Conference there were appointed a National Land Use Planning Commission and a National Advisory Commission on Land Use. When we contrast with this large-scale planning of land utilisation the agricultural scientific services set up in India under the direction of the Imperial Council of Agricultural Research, whose activities are manacled by a rule which makes it refrain from interfering in departmental affairs, we ask ourselves as to how many years will be required to deal with the entire problem of this vast continent.

Distribution of Land

The following table will indicate the position and comparative changes in the land resources of British India over the last 40 years :—

Distribution of Land in British India

Classification of land	in millions of acres Years						Per-cent for
	1900-1	1910-11	1920-21	1930-31	1935-36	1940-41	1940-41
Forests	55	62	66	67	67	68	13.3
Not available for cultivation	82	104	98	94	93	87	16.9
Cultivable waste	81	89	90	94	94	98	19.1
Current fallow	40	42	56	46	47	45	8.9
Net area sown	186	210	197	211	210	214	41.8
Total area	444	507	507	512	511	512	100

Forests

When we look at the distribution of our land resources, we find that the forests occupy about 13.3 per cent of the total area of British India,

whilst 17 per cent roughly is classified as land not available for cultivation. We have already indicated the importance of preserving our forest land and preventing it from further depletion. We shall later on refer to the desirability and importance of retaining the closest possible relationship between the agricultural and forest departments. What we would notice here is the consideration of the possibility of converting a portion of the vast area classed as not available for cultivation into forest land. In the U.S.A. the area of forest land is about the same as that of farm land, and yet the Research Commission on Social Plans appointed by the President in 1929 looked with favour on the further development of forest land, by the conversion of low grade agricultural land into forests owned by public agencies. A commission was appointed in 1940 in Bengal to report on the possibility of reserving forests in the Province. In a country, where 17 per cent of the total land is marked as not available for cultivation, and another 19 per cent as culturable waste, making a total of 185 million acres, there is obviously ample scope for laying down a carefully planned land utilisation policy, with a view to converting by afforestation some parts of these immense land resources into fuel and fodder reserves administered by the Forest Department. It is true that this whole land may not be fit for afforestation ; but if trees of different kinds, suitable to different soils are selected, a large portion of these lands can be afforested. With an agricultural population of 300,000,000 cultivating uneconomic holdings, burning manures which should go into the land as fuel, with cattle lacking proper grazing facilities, we need a forest department which, apart from growing timber, should provide facilities to the agricultural community in the shape of wood for implements, fire wood, leaves and grazing for cattle. Such a policy would be one of giving, and not a policy of taking away from the villagers, such opportunities as are indispensable for a healthy rural development.[1]

Even as long ago as 1890, a resolution of the Madras Government referred to the necessity of correcting the idea " that as soon as the forest is reserved, cattle and men are to be excluded, and it is to be worked for the profit of Government rather than for the benefit of the people. It cannot be too strongly affirmed that the chief object of the reserve forest

[1] Cf. Monograph on France in " European Conference on Rural Life," Geneva 1939, p. 36. Referring to the long term value of reafforestation in France, the report says that such a policy would result (1) in yielding a valuable crop of timber, (2) in offering work to the agricultural population in periodical thinning out, cutting, felling and carting, (3) in reducing the cost of various kinds of wood which the cultivators require for repairing timber work and agricultural implements, (4) establishing factories, paper mills, saw mills, etc., and (5) in the making of roads ensuring easier communication between scattered villages. Above all in the case of India in affording cheap fuel wood and restoring the use of cowdung as manure, reafforestation assumes even greater importance.

throughout the greater part of the country is the provision of pasture, small timber, fuel, and leaves for manure and litter." A subsequent resolution issued by the Government of India in 1894 laid down the principle that "the sole object with which the state forests are administered is the public benefit." The Government of India also stated in the Resolution that minor forests and pastures and grazing grounds must be managed in the general interests of the population of the tract. Forty years later, the Agricultural Commission Report gave us figures of the percentage of live stock grazing in forests to the total number as below :—

Bombay	13.4	per cent
C. P. and Berar	25.7	„ „
Madras	5.9	„ „
Punjab	13.0	„ „
U. P.	2.6	„ „

If one carefully peruses the chapter on Forests in the Agricultural Commission's Report, one feels that it is obsessed by the idea that the supplies offered by the Forest Department in the shape of fodder for cattle or fuel wood for the cultivator are to be determined, not by considerations of welfare of the cultivating classes, but by questions of cost of transport and "economics of the supply of fuel." Even after fifty years of the public announcement of the Government of India's forest policy, the Forest Department finds it difficult to get over the businessman's attitude that forests are not made for men, but men for forest finance. Sir John Russell's report on the work of the Imperial Council of Agricultural Research published in 1937 refers to the future possibility of extensive planting of the 'cultivable waste,' and the desirability of studying the fodder trees more fully so as to know which to choose for the plantations.[1] The wheels of Government grind slow, but will they grind exceeding small ?

Current Fallow

There can be no better evidence of the present backwardness of agricultural production in India than the fact that 45 million acres of land out of a total 512 million acres or roughly about 9 per cent is returned in agricultural statistics as current fallow. In early days, when sciences connected with the chemistry and biology of the soil constituents were not yet developed, the empirical wisdom derived from practical agriculture had made farmers realise that the fertility of the soil could be conserved not only by allowing rest to the soil, but by the introduction

1. Sir John Russel, Report on the Work of the Imperial Council of Agricultural Research, 1937, p. 43.

of new crops and by intelligent crop rotation. In the West to-day, the fallow has been replaced by intertilled row crops such as corn, potatoes and roots. In dry farming lands a hay crop has been found to maintain the fertility of the soil. Alfalfa, for example, is becoming an important crop in the Central plains of North America where it is grown in rows for seed production. A subsistence type of production naturally involves a wastage of our productive resources, by compelling the farmer to grow food on all kinds of soils as a mode of living, without reference to their adaptability for specialised types of crops, and to attempt to conserve the fertility of the soil by the practice of fallowing.

The Distribution of Land under Cultivation

The gross area cultivated with crops in 1910-11 was 247,983,579 acres distributed as below :—

	Acres	Per cent
Total food crops	198,445,685	80
Food grains	187,147,765	75.5
Sugar	4,561,977	1.8
Condiments and Spices	1,533,827	0.6
Fruits and Vegetables including root crops . ..	3,936,214	1.6
Miscellaneous food crops ...	1,265,902	0.5
Total non-food crops	49,537,894	20
Fibres	19,209,797	7.7
Oil seeds	16,700,487	6.7
Drugs and Narcotics ...	2,169,004	0.9
Fodder crops	10,465,985	4.2
Dyes and Tanning materials ..	83,115	0.1
Miscellaneous non-food crops ..	909,506	0.4
Total Food Crops	198,445,685	80
Total Non-food Crops	49,537,894	20
Total area cropped	247,983,579	100

These figures relate only to British India. Information with regard to conditions in the Indian States is not very reliable ; statistics about Indian States are very incomplete. But one can safely state that agriculture in most of the Indian States is not in any way better when compared with conditions existing in British India. The States that supply information to the Government of India's Statistical Department number only 66 comprising about 56 per cent of the total area.

If we compare the percentage of the distribution of cultivated land in British India in three typical periods, namely, (1) immediately before the outbreak of the last European War, (2) 1927-28, the period before the beginning of the great depression, and (3) 1940-41 for which figures

are available, the results may be exhibited as below :—

Percentage of cultivated area in British India

Crops	1913-14	1927-28	1940-41
Food grains	77.7	76.9	75.5
Sugar	1.2	1.3	1.8
Condiments and Spices	0.5	1.6	0.6
Fruits and Vegetables	2.0	0.6	1.6
Miscellaneous food crops ..	0.5	0.5	0.5
Total Food crops	**81.9**	**80.9**	**80**
Fibres	8.5	7.8	7.7
Oil seeds.	5.7	6.1	6.7
Drugs and Narcotics	0.8	0.9	0.9
Fodder Crops	2.5	3.8	4.2
Dyes and Tanning materials ..	0.2	0.2	0.1
Miscellaneous non-food crops	0.4	0.3	0.4
Total Non-Food crops .. .	**18.1**	**19.1**	**20**

If these figures can be relied upon, they tell us that during the last thirty years there has been a trend towards the conversion of land under food grains into land under fodder crops ; in other words, land that was hitherto used for the growth of food crops is now being considered too poor, and can only be used for grazing cattle. If this were all, the situation might not be so alarming ; but it is positively serious, when we take the area under food crops for the same periods, and compare it with the area under non-food crops, and more specially the area under commercial crops like cotton and jute :

Area in millions of acres

Year	Under ~~non-~~ food crops	Under non-food crops	Under cotton and jute
1913-14 ..	190	42	19
1927-28 ..	192	45	18
1939-40 .	197	47	25
1940-41 ..	198	50	29
Index numbers showing increase in area with 1913-14 as base year			
1913-14 ..	100	100	100
1927-28 ..	101	107	95
1939-40	104	112	132
1940-41 ..	104	119	153

These tables would indicate that whilst the acreage under food produce has increased by four per cent in the last thirty years, the acreage under cotton and jute has increased by 53 per cent. And now when the war has cut off our supplies of rice from Burma, our ministers are making

a pathetic appeal to the cultivators to substitute food crops on the land hitherto brought under commercial crops like jute and cotton.

In 1937, Sir John Russell observed : " The areas under cotton, sugar cane and wheat have risen, corresponding with the increased area under irrigation, and the increase has kept pace with the increase in population. On the other hand, the acreage under food crops shows much less rise, and, if the figures can be accepted, the acreage per head of population has actually fallen."[1] We can see in this agricultural trend the outcome of the absence of a national policy. The entry of India into the international market under British Rule naturally led to changes in agricultural production which gave an incentive to the cultivation of cash crops in preference to food crops. This trend in the direction of cash crops was further emphasised by the interest of Government departments of Agricultural Research and experimental farms in improving the quality and introducing new varieties of cash crops. No attempt was made to arrest the unhealthy trend till recently when the stress of the war revealed our very precarious food position.

Agricultural Production*

Rice

Rice is the staple food of the Indian population and one of the important products of India. The acreage under rice and the production figures show the following variations during the last thirty years :—

Year	Rice (in millions) Area (acres)	Production (tons)
1913-14 ..	66.4	24.8
1928-29 ..	68.2	26.5
1929-30—1933-4 (average)	67.4	26.1
1934-35—1938-9 (aveage)	68.5	26.5
1940-41 ..	68.8	21.0
1941-42 ..	69.6	24.3
1942-43 ..	70.4	23.0

It will be noticed that whilst the acreage increased in these thirty years from 66.4 million acres to 70.4 the production declined from 24.8 million tons to 23 million tons. The provinces in which the growth of

[1] Op cit. p. 7.

*The statistics regarding crops given in the last edition were by inadvertence based on all-India figures. We are now giving statistics for British India only based on Dr. Burns' Report on Technological Possibilities of Agricultural Development in India, 1944.

rice crop forms an important item are Bengal, Bombay, Bihar, Orissa and Madras. The sowing operations extend from May to August and the crop is harvested in December and January. Each province consumes the greater part of its own production. Bengal and South India export a part of their production and used to import low grade rice from Burma. On the whole, India consumes more rice than she produces. Most of the imports of rice used to come from Burma. Thus in 1939-40 rice imports from Burma amounted to 2¼ millions tons.

The great rice producing countries in the world are India, Burma, China, Japan and Thailand, but amongst these India takes the front rank. In 1940-41, India's production amounted to 333,000,000 quintals, as compared with 81,000,000 of Burma, 112,000,000 of Japan and about 50,000,000 of Thailand. The following table compiled from the League of Nations Annual throws further light on the question of rice production :

Variations in acreage and production of rice in India

Average	Area under rice Hectares (000)	Index Number	Production in quintals (000,000)	Index Number
1926-30	32,700	100	463	100
1931-35 ..	33,700	103	480	103.7
1938-39 ..	29,500	90	365	78.8
1939-40 ..	30,000	91.7	393	84.9
1940-41 ..	29,200	89.3	333	71.9

Taking even such a short range period as 1926-1941, it appears that whilst the acreage under rice declined by 12 per cent, the production declined by 28 per cent.

Rice is the staple food of the population ; 67,000,000 acres out of a total of 186,000,000 acres devoted to food crops are covered by rice. And yet while wheat and cotton have received and continue to receive attention from the Agricultural Department and Research Institutions, rice has hitherto been neglected. Sir John Russell refers to investigations undertaken of late on the quality of rice. He observes that the term " quality " is ambiguous. It may mean market quality, which is really commercial desirability. It may also mean nutritive quality, which relates to value as a human food. The most important properties are those associated with the nutritive value of rice. He recommends that chemical investigation on the quality of rice be carried out by nutrition experts, and " either brought within their ambit or discontinued." As regards the declining yield per acre of the rice crop, the Council of Agricultural Research is advised by Sir John Russell to arrange for sample

surveys " in order to obtain definite information on the matter."[1]

There has been a steady fall in the price of rice since 1927. There has been competition from Thailand and Indo-China, and cessation of exports to Japan and China. The gradual loss of purchasing power due to fall in prices of other agricultural products may also be one of the factors that contributed to the fall.

Wheat

Wheat is second to rice in importance as a food crop in India. It is grown in the Punjab, U.P., Bombay, C.P. and Sind. India is the third largest producer of wheat in the world, after U.S.A. and Canada. Nearly the entire output of wheat is consumed in the country. Our exports during the post-war years have been small. In fact, not long ago we imported wheat in fairly large quantities from Australia. There has been, however, a slight revival of exports since 1936-37. The acreage under wheat and production show the following variations during the last 30 years :—

	Wheat (in millions)	
Year	Area (acres)	Production (tons)
1913-14 ..	22.7	7.1
1928-29 ..	24.9	7.3
1929-30—1933-4 (average)	25.4	7.8
1934-35—1938-9 (average)	25.9	8.0
1940-41 ..	26.4	8.1
1941-42 ..	26.1	8.2
1942-43 ..	25.9	9.0

The League of Nations annual gives us the following figures concerning the area and production of wheat :—

Year	Area in (000 hectares)	Index No.	Production (000,000 quintals)	Index No.
1925-9 (average) ..	12,700	100	87	100
1930-4 („) ..	13,600	107	97	111
1939-40 ..	14,300	113	101	116
1940-41 ..	13,700	108	109	125.3
1941-42 ..	14,100	111	101	116

These figures would show that even in wheat production there has not been any remarkable improvement in methods over these last 17

[1] Op. cit. p. 24.

years.[1] The following table illustrates the variation in wheat exports :—

Tons in thousands

Pre-War average	War average	Post-War average				
1909-14	1914-19	1919-24	1934-35	1936-37	1937-38	1938-39
1,308	807	237	11	231	459	279

Millets

There are different varieties of millets, the principal being jowar grown in the North and the Central Provinces as well as in the South, and bajra cultivated both in Northern and Southern India. Both these are sources of food and fodder, the grain being utilised as human food, while the cattle get the stalks and the leaves. The acreage under jowar and bajra is about 22 and 14 million acres respectively. The annual production of jowar varies between 4 and 6 million tons per year, that of bajra between 2 and 2.8 million tons.

Barley

The acreage under barley in 1939-40 was 6.1 million acres, as compared with 6.7 million acres in 1930-31. It is chiefly grown in the United Provinces and Bihar. The exports of barley are negligible, as the crop has to satisfy a large internal demand. Barley along with bajra and jowar is the poor man's food in India. The production varies between 2 and 3.5 million tons. It is said to be richer than rice and millets in protein and fat.

Maize

Maize is widely grown in Bihar, in the United Provinces, Punjab and the N.W.F. Province. This crop is mainly consumed by men and cattle. In the U.S.A. about 75 per cent of the crop is consumed by hogs and horses, whilst in India the same amount forms the food of human beings, the leaves and stalks being given over to the animals. The acreage varies between 5 and 6 million acres and the production between 1 and 2.6 million tons. The total production of maize in 1939-40 was 2.1 million tons. The United Provinces produced 836,000 tons, Bihar 441,000 tons and Punjab 405,000 tons.

[1] A comparison of the two tables that we have abstracted, one from Dr. Burn's Report and the other from the League of Nations Year Book shows a remarkable discrepancy in the figures with regard to the area under cultivation in 1940-41 as compared with 1941-42. Dr. Burn's Report shows a fall in area in the second year whereas the League of Nations annual shows an increase in area under wheat. Both these tables are based upon official statistics supplied by the Government of India. Either the statistics are unreliable, or those who use them are liable to error.

Pulses

Pulses form an important part of the food resources of the people. They are valuable from the point of view of nutrition ; the pulses help to balance the diet, as they supply the protein which is lacking in rice. Sir John Russell in his report confesses that neither the Department nor the Council has any schemes for studying the pulses, and expresses a pious wish that in view of their importance as sources of protein " a conference should be held with the nutrition experts to discover whether more (research ?) work could usefully be done, and, if so, on what lines." The pulses, moreover, fertilise the land and supply the organic matter which the soil requires. They form an important rotation crop, as they absorb nitrogen from the air and contribute to the restoration of what the soil may lose through other crops. At an experimental station in India it has been shown that the effect of a gram crop was enough to remove all differences between manurial treatment given to the succeeding grain crop. The cultivation of pulses requires less rainfall than the cultivation of rice and both the seeds and stem constitute good cattle fodder. There is very little export trade in pulses, the whole of the yield being consumed internally.

The following table shows the acreage yield of gram during recent years :—[1]

	Gram (in millions)	
Year	Area (acres)	Yield (tons)
1917-18 .	16.6	4.5
1920-23—1923-24 (average)	13.6	4.0
1939-40 ..	11.7	3.1
1940-41 ..	12.7	3.2
1941-42 ..	12.7	3.0

Jute

We have in this country a monopoly for the production of jute as a commercial crop. Bengal produces over 90 per cent of the total yield, the rest being grown in Bihar, Orissa and Assam. It is not merely important as a commercial product ; the economic life of Bengal is largely determined by the growth of jute. The total acreage under jute is only about ten per cent of the cropped area of Bengal, whilst rice covers 72.5 per cent. Its importance arises from the fact that jute and jute manufactures constitute about 50 per cent of the total value of exports from Bengal, and 25 per cent of the total value of exports from the whole of British India. The market value of jute crop per acre appears in the

[1] Burns, Op. cit. Statement 7.

following comparative table based upon average figures for ten years (1904-13) of production in British India :—[1]

	Area in acres (in 000's)	Yield in tons	Market value of produce per acre in rupees
Rice ..	69,000	24,000,000	54.6
Wheat ..	28,000	8,750,000	31.3
Jute ..	3,114	8,300,000 (bales)	128.8

The following table indicates the variations in acreage and production of jute during 30 years :—

Year	Jute (in millions) Area (acres)	Production (tons)
1913-14 ..	3.1	1.7
1928-29 ..	3.1	1.8
1929-30—1933-34 (average)	2.6	1.5
1934-35—1938-39 (average)	2.6	1.4
1940-41 ..	4.3	1.8
1941-42 ..	2.1	1.0
1942-43 ..	3.3	1.6

The cultivation of jute in Bengal was not adjusted to world requirements from time to time, with the result that in 1930-34—the period of depression—the annual value of the crop fell from 44 crores of rupees in 1919-29 to 15 crores in 1930-34. A Jute Enquiry Committee was appointed, and the Bengal Government decided to launch a campaign for the voluntary restriction of the acreage under jute in 1935. These measures, whatever their influence, were followed in 1939-40 by the declaration of war and a phenomenal demand for jute and jute products. The fluctuations in the jute market led to the fixing of minimum and maximum prices in May, 1940, by an ordinance of the Bengal Government. It was later on decided to adopt drastic restriction of the jute crop by a reduction in the hours of work in the mills and restriction in acreage. It may also be noticed that in 1936, an Indian Central Jute Committee was appointed with a Government grant of Rs. 5 lakhs per year for carrying on experiments and research and collection of accurate statistics.

Cotton

India stands next to the U.S.A. in the world production of cotton. Besides supplying the raw material for our textile industry, cotton plays a considerable part in our export trade. More than 50 per cent of the

[1] Eastern Group Number, Indian Finance Annual, p. 188.

total production used to be exported in normal times before the war, Japan being our chief customer. About 40 per cent of our total production is absorbed by the mills and the rest by our cottage industries in spinning and weaving. The production is distributed over all parts of the country ; and it is a feeder for the hand industry, which plays even in our own time a large part as a subsidiary occupation of the rural population in the economic life of the country. In the foreign markets apart from Japan, we had no substantial customers, partly due to the inferior quality of the cotton, and partly due to our inability to compete with our relatively higher cost of production. The Imperial Council of Agricultural Research and the Indian Central Cotton Committee have been busy with the vital problem of improving the methods of cultivation and the quality of the production. The following figures indicate variations in production in recent years :—

Year	Cotton (British India) Area (million acres)	Production (thousand tons)
1913-14 ..	15.5	602
1928-29 ..	16.2	672
1929-30—1933-34 (average)	14.2	552
1934-35—1938-39 (average)	14.7	641
1940-41 ..	14.1	710
1941-42 .	14.8	748
1942-43 ..	11.0	544[1]

The following table illustrates the trend of our export trade in cotton before the effects of the war made themselves felt :—

Years	Bales of 400 lbs (000's)	Value in lakhs of rupees	Years	Bales of 400 lbs (000's)	Value in lakhs of rupees
Pre-war average	2,407	33,28	1937-38	2,732	23,89[2]
1932-33	2,043	34,95	1938-39	2,700	—
1934-35	3,490	44,41	1939-40	2,948	30,11
1936-37	4,268	23,86	1940-41	2,168	23,56

Sugarcane

The cultivation of sugar cane has made enormous progress in recent

[1] The sudden fall in acreage and production in 1942-3 was due to the fact that the Eastern markets were closed as a result of the entry of Japan into the War. The Indian Cotton Committee pleaded for a reduction in acreage and this was supplemented by the efforts of Government in the direction of the Grow-More-Food campaign. If we look however, at the all-India figures of acreage under cotton in 1943-44, we find that there has been a remarkable increase by over a million acres, mostly in Indian States.

[2] Indian Finance Annual, p. 113.

years, as the result of the protection afforded to the sugar industry. The U.P. is the largest producer of sugar cane, her share averaging 53 to 54 per cent of the total production. The Imperial Council of Agricultural Research much be credited with having done good work for the development and growth of improved varieties of cane. Whilst the Java factories cultivate sugar cane around their factories with modern appliances, the factories in India are dependent for their supply of cane on a large number of cultivators. There are great potentialities of the development of the industry with the standardisation of cane and the introduction of improved methods of cultivation. There have been attempts in Bengal, U.P., Bihar and Madras for regulating the purchase of cane and fixing basic prices. The total of Government grants to the Imperial Council for expenditure on sugar research amounts to Rs. 35 lakhs and more.

The development of the industry in India may be indicated by the following comparative table of production :—[1]

Production of Cane by Principal Countries
(in thousands of quintals)

	1925-26	1931-32	1933-34	1935-36	1937-38	1939-40	1940-41	1941-42
India	18,100	24,200	29,800	36,000	32,900	33,600	35,300	24,000
Cuba	46,900	24,900	22,100	24,700	28,900	20,700	23,300	31,800
Java	19,400	25,600	13,700	5,700	13,700	12,200	17,600	13,700

In these fifteen years, India has emerged from being the third in rank for the world production of sugar cane to the first rank.

The following table shows the growth in acreage and production of sugar cane in British India during the last 30 years :—

Year	Area (millions of acres)	Production (millions of tons)
1913-14 ..	2.5	2.3
1928-29 ..	2.5	2.6
1930-31—1933-34 (average)	2.9	3.7
1934-35—1938-39 (average)	3.6	5.0
1940-41 ..	4.4	5.4
1941-42 ..	3.3	4.0
1942-43 ..	3.4	5.4

Tobacco

Tobacco ranks high in importance among the numerous agricultural products. India is the third largest tobacco producing country in the

[1] League of Nations Statistical Year Books.

world after U.S.A. and China. The following table shows India's comparative position with regard to acreage and production of tobacco :—

Year	India		U.S.A.		China
	Lbs. in 000's	Acres in 000's	Lbs. in 000's	Acres in 000's	Lbs. in 000's
1933-34	985,600	1,124	1,081,629	1,279	1,324,160
1934-35	1,191,680	1,308	1,297,155	1,437	1,389,938
1935-36	1,093,120	1,253	1,155,328	1,438	1,394,008
1936-37	1,111,040	1,183	1,562,886	1,751	not available
1937-38	1,131,200	1,288	1,375,823	1,599	"
1938-39	1,093,120	1,290	1,874,407	2,005	"

The chief centres of the tobacco crop are in Bengal, Madras, Bombay, Bihar, the U.P. and the Punjab. The export trade has increased in recent years. The United Kingdom and China are our chief customers. In 1936-37, the total exports of tobacco were 34,832,000 lbs. out of which about two-thirds went to the United Kingdom. In 1937-38, out of the total exports of 42,500,000, half went to the United Kingdom. The following table gives us the exports to our chief buyers :—

Year	U. K. (000's lbs.)	China (000's lbs.)
1939 ..	20,350	20,250
1940 ..	28,000	16,300

In spite of large output and substantial exports, the imports into India of tobacco are of greater value than the exports. In 1940, India purchased nearly 5½ million pounds of tobacco leaf valued at two million dollars as compared with 3.8 million pounds of leaf worth 1.8 million dollars in 1933. The U.S.A. leaf is imported to blend it with Indian tobacco for the manufacture of cigarettes.

The tobacco industry in India is not yet well-developed. In 1937, there were only about 300 tobacco factories employing 11,000 workers. But there are thousands of small establishments spread all over the country manufacturing " beedies ", the native cigarettes which are hand-made. It is estimated that the daily output of " beedies " amounts to 40 million in the numerous factories in the Jubbulpore and Bhandara districts of the C.P. employing thousands of people. These are exported to all parts of India. There is ample scope for improvement in the quality of Indian tobacco and along with it in the tobacco industry in India as well as in the export trade.[1]

Tea

Among plantation crops in India, tea is the most important. The indigenous plant was first discovered in Assam in 1820. The Assam

[1] *The Foreign Commerce Weekly*, December 12, 1942.

Company was the first tea concern transferred to the company by the East India Company who worked it for 5 years. The following table shows the growth of the industry :—

Years	Area in 000 acres	Production in million lbs.	Year	Area in 000 acres	Production in million lbs.
1900-04 (average)	523	201	1920-24	709	336
1905-09 ..	539	242	1925-29	757	397
1910-14 ..	591	290	1930-34	813	400
1915-19 ..	662	374	1935-39	833	425

The year 1932-33 was one of the worst for the tea industry. In addition to the worldwide depression, there was considerable over-production, with the result that producers of tea all over the world were faced with declining prices and accumulation of stocks. To check over-production, a bill was passed in the Legislative Assembly in 1933, restricting production and limiting export. The export quota which was fixed at 82½ per cent of the standard exports rose to 92½ per cent in 1938-39. Due to accumulation of stocks, the quota for the following year was fixed at 90 per cent. The outbreak of war gave rise to new conditions. In the United Kingdom, the entire tea trade passed under the control of Government. A tea controller for India was appointed to administer the emergency scheme. There was a strong demand for practically all kinds of tea and the export quota was raised to 95 per cent in October, 1939. The International Tea Committee reduced the quota for 1940-41 to 90 per cent for all participating countries. The following table shows the position as regards the export of tea by sea from India :—

Year	Amount exported in million lbs.	Value in lakhs of rupees
1927-31 (average)	361	2754
1932-36 ..	335	1928
1937-40 ..	328	2345
1940-41 ..	349	3775

A considerable quantity of Indian tea imported into the United Kingdom is normally re-exported to other foreign countries. The following table shows the percentages of exports of tea from India to different parts of the world by sea :—

Countries	1938-39	1939-40
United Kingdom	87.3	80.6
Rest of Europe	1.6	1.1
Asia	3.4	4.9
America ..	6.9	11.4
Australia ..	0.5	1.2
Africa	0.3	0.8

The price of tea at auction sales was six annas per pound in the period between 1901-11. It rose to fifteen annas per pound in 1927-28, fell to five annas in 1932-33, rose to ten annas in 1936-37 and was eleven annas for teas sold with export rights.[1]

Coffee

Coffee cultivation is confined to the Indian States of Mysore, Travancore and Cochin and in British India to Coorg and parts of Madras Province. Mysore accounts for 53 per cent of the total acreage. During the last twenty years, the acreage and production of coffee in India have rapidly increased from 126,000 acres to 190,000 acres and the production from 20 to 40,000,000 lbs. India, however, is not one of the big producers of coffee in the world, when compared with Brazil. In 1939-40, out of a total world production of 22,000,000 quintals, Brazil contributed 13,000,000 and Java 1,400,000, whilst India's share was 150.000 quintals. The fall in prices in the depression period affected the coffee plantations seriously, as the internal consumption does not absorb the entire crop, and the producers were compelled to seek Government help. The Indian Coffee Cess Act, 1935 provided for the creation of a fund, and for the levying of a duty of eight annas per cwt. on all coffee exported to any place beyond the limits of British India. The proceeds were to be spent by a Committee towards the promotion of cultivation, manufacture and sale of Indian coffee. As an article of export coffee plays a substantial part. The exports amount to a crore of rupees per year, and contsitute half the total production. The war has affected the exports, as France was one of our big consumers.

A scheme for the control of the coffee industry to secure a fair price for the grower was brought into operation in December, 1940, by the Coffee Market Expansion Ordinance. The following table gives the figures for the production and exports of coffee :—[2]

(In thousands of cwts.)

12 months ending 30th June	Production	Export	Surplus available for home consumption
1931	294.4	208.4	86.0
1935	292.6	147.5	145.1
1939	358.1	206.7	151.4
1940	310.9	118.9	192.0
1941	280.7	48.7	232.0

[1] Indian Year Book, 1942-43, pp. 708-9.
[2] Indian Year Book, 1943-44, p. 705.

Rubber

Rubber has a comparatively recent development. Half a century ago, it was a negligible commodity. Before the war of 1914-19, it was a precious commodity quoted at 12sh. 9d. per lb. The plantation industry was in its infancy. The total output of plantation rubber in 1904 was about fifty tons. To-day it occupies a pre-eminent place as an article of international commerce, and is used in a variety of industries all over the world. The production of rubber to-day exceeds a million metric tons. It was 1,400,000 metric tons in 1940. India's production has varied from 10,000 in 1931 to 12,000 in 1940. In recent times attempts have been made by some countries to produce synthetic rubber. It has been estimated that its production was about 50,000 tons in U.S.S.R., 20,000 tons in Germany and 3,000 tons in U.S.A., in 1939. The U.S.A. have increased synthetic rubber production to about 12,000 tons in 1941.

The decline in commodity prices and the increasing possibilities of synthetic rubber in recent years have affected the rubber market also, in spite of drastic reductions in the quota by the International Rubber Regulation Committee. In 1938, the International Rubber Production Regulation Scheme was renewed, and India's share was increased by 4,500 tons. There are potentialities of further development in the industry with a growing demand in the future for rubber products of all kinds.

Linseed

Linseed has played an important part in India's export. It is one of those crops whose development was determined by the export market, though it has also been accompanied by considerable internal consumption. The following table is obtained from the League of Nations Annual :—

Production in Thousands of quintals

	1931	1932	1935	1938	1939	1940	1941
Argentine	22,624	15,750	15,100	14,100	10,144	15,200	16,000
U.S.A.	2,986	2,924	3,688	2,071	5,119	7,845	8,201
India	3,831	4,226	4,267	4,684	4,491	4,735	4,410
U.S.S.R.	8,400	8,000	7,400	7,500	—	—	—
Total World Production	41,600	33,300	34,300	32,400	24,500[1]	31,600	34,000

[1] Excluding U.S.S.R. whose figures are not available.

We reproduce below acreage and production figures for British India :—

Year	Linseed Area (million acres)	Production (thousand tons)
1913-14 ..	2.6	370
1928-29 ..	2.6	304
1929-30—1933-34 (average)	2.7	354
1934-35—1938-39 (average)	2.9	364
1940-41 ..	2.9	366
1941-42 ..	2.7	311
1942-43	2.7	349

Argentina produces nearly 50 per cent of the world's output of linseed ; but Indian seed is stated to be superior in its oil content. The largest acreage under linseed in India, so far as the provinces are concerned, is to be found in C.P. and Berar. Linseed furnishes one of the many examples, which illustrate the incapacity of this country to take full advantage of a constantly expanding export market.

In the period before 1914, the total world exports of linseed amounted to 1.4 million tons, of which Argentina exported 676,000 and India 367,000 tons. The world exports of linseed since that period increased by 50 per cent but Argentina captured the entire increase, and in 1931 India's share was only five per cent of the total exports as against 85 per cent of Argentina. Things have improved a little after 1932, mainly due to the failure of the linseed crop in Argentina for three sucessive years. The recovery of her position is the result of Argentina's weakness rather than India's strength.

During recent years the export of linseed oil has increased, while that of linseed cakes has decreased. The export of linseed oil has increased from 135,000 gallons valued at Rs. 2.3 lakhs in 1936-37 to 266,000 gallons valued at Rs. 4-4 lakhs in 1938-39. Linseed cakes exports decreased from 50,000 tons in 1936-37 to 31,000 tons in 1938-39. The value of linseed cakes exported was Rs. 32 lakhs in 1937-38 and Rs. 22 lakhs in 1938-39.[1] In the report of the Agricultural Marketing Adviser to the Government of India, published in 1938, we are told that owing to the absence of proper marketing conditions the cultivator gets only ten annas in the rupee. There can be no doubt that a well-planned policy can enormously increase the linseed production for the export trade and benefit the cultivator.

[1] Indian Finance Annual, 1942, p. 118.

Groundnuts

Till the early years of the present century, the export of groundnuts from India amounted to only 1,500 tons a year. The area under groundnuts was also restricted to about 250,000 acres in Madras, and 160,000 in Bombay. The demand for Indian groundnuts in Europe was very small, until seeds with higher oil contents were introduced, and this was the beginning of the expanding cultivation which has now reached over 5,000,000 acres.

The following table shows the world production of groundnuts and the share of different countries :—[1]

In thousands of quintals unshelled groundnuts

	1931	1934	1937	1938	1939	1940
World Production	49,000	46,700	69,100	62,500	61,700	67,200
India ..	24,489	19,142	34,911	32,707	32,158	35,287
U.S.A. ..	4,789	4,581	5,553	5,923	5,340	7,936

The following table shows the growth in acreage and production in British India :—

Year	Groundnuts Area (million acres)	Production (million tons)
1913-14 ..	1.8	0.6
1928-29 ..	4.7	2.4
1929-30—1933-34 (average)	4.6	2.2
1934-35—1938-39 (average)	4.8	2.1
1940-41 .	6.0	2.7
1941-42 ..	4.5	1.8
1942-43 ..	4.8	1.8

It will thus be noticed that India produces more than half of the total crop of groundnuts. The greater part of the production has an internal market, and roughly a quarter of our annual production is exported. France has been the most important customer for our production. There was a steady growth in our exports from 500,000 tons in 1934-35 to 835,000 tons in 1938-39. It is also significant that during recent years there has been a growing export of groundnut cakes mainly to the United Kingdom. The total exports for 1938-39 of these cakes amounted to 252,000 tons valued at 2½ crores of rupees. It is also to be noticed that while the total exports both of groundnuts and cakes in 1938-39 exceeded the figure of 1929-30 by 100,000 tons, the value had fallen by four crores of rupees. We have been exporting more in volume in these last ten years and getting less in value.

[1] League of Nations Statistical Year Book, 1941.

CHAPTER VIII

OUR AGRICULTURAL PROBLEM

Soil Deterioration

Our study of the main agricultural crops in the light of the statistics that we have given raises a very grave question for our agricultural economy, namely, is the soil of India getting exhausted ? This is a question that has been frequently asked in our times. It was raised in 1893 by Voelcker, who said that positive evidence of soil exhaustion was not readily available. He, however, drew attention to the general belief entertained even in his times by Settlement Officers throughout the country that the soil was becoming less productive, a belief that made him conclude that they were more than merely casual observations. Thirty-five years later, the Agricultural Commission addressed themselves to the same question in their Report, whether agricultural land was " suffering a growing diminution in its capacity to yield crops ", due to the removal year by year of more of the substances essential to the growth of crops than are replaced by nature or the cultivator. The Agricultural Commission could obtain no evidence of progressive soil deterioration. They observed : " Such experimental data as are at our disposal support the view, that, when land is cropped year by year, and when the crop is removed and no manure is added, a stabilized condition is reached. . . . While the paucity of records throughout India over any long period of time makes the matter impossible of exact proof, we are of opinion that the strong presumption is that an overwhelming proportion of the agricultural lands of India long ago reached the condition to which experimental data point. A balance has been established, and no further deterioration is likely to take place under existing conditions of cultivation."[1]

On the other hand, the Bengal Provincial Banking Enquiry Committee observed in 1930 : " The fertility of the agricultural land is deteriorating steadily on account of the absence of manure. The yield of the different crops has become less and less." In support of this assertion, they give us the following table :—[2]

[1] Agricultural Commission Report, p. 76.
[2] Report of the Bengal Provincial Banking Enquiry Committee, pp. 21-22.

Average Yield in lbs per acre in Bengal

Quinquennium ending	Wheat	Winter Rice	Gram	Rape and Mustard
1906-07 ..	801	1,234	881	492
1911-12 ..	861	983	881	492
1916-17 ..	698	1,036	867	460
1921-22 ..	688	1,029	826	485
1926-27 ..	721	1,022	811	483
Decrease in 20 years	80	212	70	9

Dr. Radhakamal Mukerjee tells us that in the United Provinces wheat yields show a tendency to decrease since historical times and gives us the following table :—[1]

Average yield of wheat per acre in lb		Source of Information
Akbar's times	1,555	Ain-i-Akbari
1827-40	1,000 (irrigated)	Thornton's Settlement Report
	620 (non-irrigated)	of Muzaffarnagar
1917-21	1,280 (irrigated)	Later Settlement Report of
	840 (non-irrigated)	Muzaffarnagar
1931	1,000 (irrigated)	Average yield of crops in
	900 (average)	India (quinquennial report)

Dr. Mukerjee also calls attention to the disproportionately large increase in the mean density of newer districts as compared with a decline in density of older districts like Benares, Azamgarh and Jaunpur.

District	Mean Density					
	1881	1891	1901	1911	1921	1931
Gorakhpur	574	657	649	707	722	787
Basti . ..	582	637	659	653	687	737
Benares . ..	885	914	875	890	899	930
Azamgarh . ..	733	790	700	675	691	710
Jaunpur . .	780	816	776	746	745	797

If the last three districts show a decline in density from 1891 "in spite of a steady extension in the total area cropped, and an extension of well irrigation which in years of draught have reached the phenomenal figures of 95, 93 and 82 per cent, respectively, of the estimated irrigable area—does it not support the inference that, due to the enormous pressure of population on the land, man's efforts are here showing a diminishing return, and population is reaching a setback ? "[2]

The soil in India is not naturally poor but has become poor. It has also been suggested that the humus, called the 'Reserve Bank of the

[1] "India Analysed," Vol. III, 1934, p. 169.
[2] *Ibid.* p. 184.

Soil', is getting depleted in our country and that it is necessary to guard against such a process. When the process of depletion continues over a long period, "the result is disease as is shown in the 'dust bowls' of Western America and the Deserts of Mesopotamia."[1]

An Irrigation Department Committee in Bengal state that deterioration of land has already proceeded so far that it cannot be checked and that "the tract is doomed to revert gradually to swamp and jungle."[2]

"The agricultural shrinkage in Central and Western Bengal has been unprecedented in its magnitude and rapidity. About half the cultivated area has ceased to be ploughed in Burdwan and Hooghly, and still the area is shrinking."[3]

Writing about Bengal, Radhakamal Mukerjee observes: "In another part of the valley not merely did science bring little aid to man in obtaining his livelihood from the soil, but the unscientific handling of water and drainage problems has contributed to an agricultural decadence almost unprecedented in the world. "There are parts of Bengal," wrote Ditcher in the Capital, "which the Government of India found a garden and left a desert—and Bengal as an administrative and economic unit, never recovered from the grave economic injury thus inflicted." "[4]

Similarly in the Punjab Dr. Lander, Agricultural Chemist to the Government of the Punjab, remarked that a considerable amount of land in the Punjab had gone out of cultivation and a great deal more was going out of cultivation on account of Kalar.[5]

Writing in 1937 with reference to land under rice, Sir John Russell leaves the question open for further enquiry. "The acreage under rice is apparently declining . . . I was on several occasions informed that the yields are declining. No good figures seem to be available, but if further enquiry indicated any basis for the belief, it would be desirable for the Council to arrange for sample surveys to be taken in a region, where the decline is said to be going on in order to obtain definite information on the matter."[6]

Forty-five years after Voelcker had stressed the desirability of obtaining accurate data on the question of soil deterioration, officers of the Gov-

[1] Fowler, "India's Millions and the Food Cycle in India", Indian Farming, Vol. II, 1941, p. 615.
[2] Quoted in "India Analysed," Vol. III, p. 196.
[3] *Ibid.*, p. 197.
[4] *Ibid.*, p. 195.
[5] Proceedings of the 2nd Meeting of the Crops and Soils Wing of the Board of Agriculture, p. 43.
[6] Op. cit. p. 24.

ernment of India still continue dilating on the importance of obtaining "definite information."

The variation in yield per acre of some of the principal crops as seen from the following table of index numbers appears to lend support to the view that the soil in India is deteriorating :—[1]

Index Numbers of Growth in Acreage and Yield (1913-14=100)
British India

Year	Rice		Wheat		Rape & Mustard		Groundnut		Cotton	
	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield	Acreage	Yield
1927-28	109	97	116	91	99.8	81	338	390	102	113
1939-40	121	106	123	99	103	107	577	489	88	95
1940-41	120	103	126	86	104	105	617	578	97	115

Now we are aware that part of the decline in yield as compared with the increase in acreage may be due to inferior land brought under cultivation. It may also be that the growth of population may have led to a diminution in the number and extent of periodic fallow, and thus to an increase in the area cultivated in relation to the available supplies of manure. This would obviously result in deterioration in soil.

The question of soil deterioration can also be approached from a different point of view. The lack of statistical evidence in relation to specific areas does not preclude the possibility of soil deterioration in India. As more and more land is brought under cultivation, the manure supply which is limited and insufficient has to be spread over larger tracts. It is a truism in agriculture that what is removed from the soil in the form of crops must be restored to it in some other form; for continuous cropping without manure will impoverish even the richest soils. It is equally a truism that the heavier the crop raised, the greater the need of restoring to the land its fertility by manures or by devices such as rotation of crops. We in India are exporting our crops whether cotton, jute, oil seeds, wheat or groundnuts, all of which remove a large proportion of the soil constituents. What do we restore to the soil ? Our important source of natural manure —cow-dung—has been diverted to other purposes. We are not using fish or bone manuring due to prejudices. We use leaves and stalks undoubtedly, but it is a small portion of the soil contsitutents that is thus restored to the land. We are exporting not only our crops but our sources of manure in the shape of bone meal, oil seeds and oil cakes. "A country that exports both crops and manure must be declining in fertility." This was said fifty years ago, and the history of our export trade continues to manifest the same trend in the last fifty years.

[1] Based on Estimates of Area and Yield of Principal Crops in India.

It has been said, on the other hand, that the soil in India still responds to improved methods and proper manuring, that within the next two or three decades the out-turn of the cropped area may be increased by as much as 30 per cent.[1] The six Indian scientists who visited Britain in 1944 expressed the opinion that, with proper administration and enough fertilisers, India's agricultural crop could be doubled in ten years.[2] It is safer perhaps to suggest that the old agricultural practices "have established a working equilibrium between yield and soil recuperative capacity."[3] Writing a note for discussion before the third Meeting of the Crops and Soils Wing of the Board of Agriculture held in December, 1939, Rao Bahadur Bal, Agricultural Chemist to Government, C.P. and Berar, observed that, in the case of Indian soils which have been under cultivation for many centuries, the history of crop yields does not indicate any progressive decline in the yield per acre during the period, 1900-1922. He illustrated this view by a comparative table showing the yields of wheat in respect of Canada (comparatively recently cultivated soils) and India (soils under cultivation over a period of centuries) :—

	Wheat Bushels per acre	
Year	Canada	India
1895 ..	—	9.6
1900 ..	—	10.5
1905 ..	—	11.9
1910 ..	18.9	11.6
1915 ..	19.1	11.4
1920 ..	13.2	11.5
1922 ..	15.4	11.8

The soils in India, observes Dr. Bal, appear to have reached a stationary state. This has also been found to hold good in the case of various European countries possessing soils which have been cultivated for many centuries. Dr. Bal contends that this is borne out in respect of other crops also. "It has been shown," he says, "that soils of our province have now reached a stationary state of fertility at a low yield level, as a result of cultivation over many centuries, without adequate returns of organic matter and phosphates and due to the lack of proper soil management in certain important directions." He, therefore, suggests that the problem before us is not one of preventing any further deterioration of soil fertility, but is one of finding ways of improving the soils which have more or less reached a minimum stage of fertility.

Even if there has been no deterioration in the land so far, what

[1] Proceedings of the 17th Indian Science Congress, p. 34.
[2] *Times of India*, 9th November, 1944.
[3] R. Mukerjee, op. cit, p. 172.

about the future ? With an increasing population will the soil continue to meet our future demands ? Are we conscious of the vital necessity of conserving the constituents of the soil, its potential fertility, in view of our growing population ? The law, that we shall receive only as we are ready to give, holds good in the field of agricultural production as much as it does in human relationships. In agriculture, we are almost living upon our capital resources for the last few decades, and the " grow more food " campaign of which we hear so much during the last twelve months and more may intensify the process through a short term view of our immediate needs.

But with the advances made during the last fifty years in our knowledge of the chemistry and bacteriology of the soil, on the one hand, and of mechanised methods of production, on the other hand, there is every reason to believe that an enlightened policy of land development may not only prevent any possible further deterioration of the soil, but enable our population to live upon an improved standard with a surplus agricultural production for export. Where losses in soil resources are the result of removal of the crops or leaching by the rains, the losses can be restored and maintained through the mineral and other resources that we command. It has been pointed out that bacteria living on the roots of leguminous plants are constantly adding to the supply of nitrogen in the soil. We have resources in the shape of sulphur and phosphorus amply sufficient for our agricultural needs.

Fertilisers are tending to become cheap ; the price of nitrogen, the most expensive of the ingredients in mixed fertilisers seems likly to fall with improvements in the processes of production. Moreover, the holdings which are so obviously uneconomic for the growth of crops like wheat or rice or pulses may be converted into garden land for the cultivation of vegetables and fruits, giving opportunity in turn for the establishment of small-scale rural industries, absorbing some of the landless classes.

We have no reason, therefore, judging by the evidence at our disposal to despair about the future of agricultural development in our country, given the vision to plan and the power to carry out the plan.

The Twofold Character of Our Agricultural Problem

The complexity of the problem of Indian agriculture has been a matter of frequent observation and comment during the last hundred years. That Indian Agriculture is not primitive, that the Indian cultivator is quite as good as a British or an American farmer are facts to which

attention has been repeatedly drawn in the past. It is also recognised that the conditions under which crops are grown in India are frequently remarkably good, and that there are centuries of agricultural experience behind the ryot's art. It has also been observed that it is much easier to indicate possibilities of improvement in English agriculture than to make valuable suggestions for the benefit of Indian farmers, particularly suggestions which have a reasonable chance of being carried out. Thus, Voelcker observed as early as 1893 in his report on agriculture, that if he made any suggestions, he would do this with the feeling that there was much for him to learn, and much that he would never be able to learn from his study of Indian agricultural conditions.[1]

The problem of Indian agriculture is a twofold problem. In the first place, there are great differences in the agricultural conditions and practices that prevail in different parts of the country, so that while in parts like Gujarat in Bombay the cultivation calls for very little in the way of improvement, there are other parts where there is scope for improvement, as in the Central Provinces. In the second place, when we compare the agricultural productivity of India with that in other countries, we notice that land in India in a number of crops yields on an average much less than in other parts of the world. If the problem of Indian agriculture is twofold, the approach to its solution likewise has to be two-fold: (1) There is the question of making the best of the present methods of agriculture, teaching the cultivators the utility of such measures as are immediately practicable. (2) There is the bigger question of bringing about a radical transformation of methods by the adoption of large-scale agriculture with scientific appliances, a question which in turn presupposes a radical transformation of the present social and economic structure.

Differences in Agricultural Conditions in India

Taking a few illustrations, we find the following variations, for instance, in the yield of linseed per acre in different provinces :—

Province	Yield per acre in lbs	
	1938-39	1939-40
Central Provinces and Berar ..	180	196
United Provinces	259	420
Bihar and Orissa	307	294
Bengal	416	428*

[1] Report on the Improvement of Indian Agriculture, p. 12.
* Eastern Group Number, Indian Finance, p. 195.

So also we obtain the following variations in the yield per acre of rice and wheat on the basis of returns for 1936-37 :—[1]

Yield per acre in lbs

Province	Rice	Wheat	Province	Rice	Wheat
Madras .	1,086	—	Bihar ..	756	865
Bombay .	871	393	C. P. and Berar	705	429
Bengal ..	998	660	Assam ..	638	—
U.P. ..	645	725	Sind ..	860	724
Punjab ..	—	810	Coorg .	1,470	—

It will thus appear that the variation in the yield per acre of rice ranges from 638 lbs. to 1,470 lbs. In wheat, the variation ranges from 393 lbs. to 865 lbs. per acre. This wide range of variation in yields, even taking into account the differences in soil, climate, rainfall, etc., in different provinces, cannot be easily explained. What is still more difficult to understand is the enormous variation in the yield per acre from year to year in the same province, if we can rely upon the statistics supplied in Government publications. One feels tempted to observe that no conclusions of any value can be based upon such unsatisfactory returns as those to be found in official statistics, based upon an average estimate of the yield of land of different qualities arrived at on hypothetical grounds by the Agricultural Department.[2]

Low Agricultural Productivity

Turning, in the next place, to a comparison between the yield per acre of different kinds of crop in India and the yield per acre of the same crops in other countries, it may be observed that our agricultural productivity can best be compared with that of countries like China and Japan, where the methods of cultivation have been handed down as in India from generation to generation for centuries. It is also useful to compare our productivity with that of countries like the U.S.A. and the U.S.S.R., which enjoy the advantages of large-scale scientific agriculture and which contribute a substantial share to the world's agricultural production. The following tables give us a comparative view of the agricultural productivity in different countries. :—

[1] Compiled from the Statistical Abstract for British India.

[2] Cf. "Whilst, in the provinces where settlements are temporary, the figures for area are considered to be fairly accurate, the same standard of accuracy is far from the case in the permanently settled provinces where figures of areas are often largely conjectural. Again the production calculations are made from standard yields, which are prepared quinquennially, usually on the basis of crop cutting experiments carried out by the different provinces. Experience has proved conclusively that the figures produced by these crop cutting experiments are very unreliable." W. Burns, "Technological Possibilities of Agricultural Development in India," 1944, p. III.

Quinquennial average (1932-36) in quintals per hectare[1]

Crop	China	Japan	France	Italy	U.S.S.R.	U.S.A.	Total average of all countries.	India	
								Absolute quantity.	Index No.
Rice	25.6	36.0	—	—	—	—	30.8	13.7	44.4
Wheat	11.1	13.8	15.9	14.3	7.8	8.3	11.9	7.0	58.8
Barley	12.1	20.4	14.6	10.6	8.9	10.5	12.8	9.4	73.4
Maize	13.7	13.8	14.4	19.6	10.1	13.2	14.1	8.7	61.7
Cotton	2.4	—	—	—	2.4	2.1	2.3	0.9	39.1
Linseed	—	—	4.6	5.9	2.8	3.5	4.2	2.7	64.3
Groundnut	18.2	21.5	—	—	—	7.9	15.8	10.0	63.3

Yield in lbs per acre of some crops for 1938

Crop	Siam	Egypt	Korea	Italy	Argentina	Germany	India
Rice	1,299	3,136	2,464	4,928	—	—	834
Wheat	—	1,882	—	1,434	1,053	2,464	728
Cotton	—	440	—	—	156	—	97
Rape Seeds	—	—	—	—	—	1,769	420

We are fully awaie that the remarkably low productivity of land in India as compared with other countries is largely due to the differences in agricultural methods and in the stages of development in the economic life of these countries. But the fact which these tables bear out is that land in India of a given size and for a given crop contributes a yield which is the lowest amongst the countries compared. We have included in these countries a country like China, which resembles in so many ways our own country in the methods of production and in its socio-economic organisation. The question that confronts both the student and the statesman is whether looking to the richness and fertility of the soil in India, the human factor which has done so much to increase production in other countries, less favourably situated, cannot achieve equally great, if not better results, by bringing all the resources of science and mechanisation to bear upon our fertile soil.

Water and Irrigation

In examining the factors that determine the productivity of the soil in India, it will be convenient to consider them according as they relate to (1) the physical environment or to (2) social, economic and political conditions. Taking the physical environment into account so far as it includes factors like climate and soil, these are more or less fixed by geographical conditions. Though even these are modifiable by human efforts, differences in productivity due to such factors cannot be removed in their entirety. There are other factors which are largely modifiable

[1] R. K. Das, "Economics of Indian Agriculture," in 'Modern Review', January, 1941.

by human agency, and which offer possibilities of improvement both by the transference of local methods and practices from one part of the country to another, and by the introduction of Western methods so far as they can be applied to Indian conditions.

Water is indispensable to cultivation, and in a country like India where dry farming is still carried on in the greater part of the country, an adequate supply of water acquires a greater importance than elsewhere. Owing to the marked divergence in the quantity of rainfall in different parts of the country, no uniform policy can be laid down in general terms for the country as a whole. From the point of view of water facilities, India can be roughly divided into three great areas : (1) Areas where the rainfall is abundant like Assam, Eastern Bengal and the Western Ghats and where therefore irrigation is not needed. (2) Areas of uncertain rainfall like portions of North West India, the Deccan and Madras. Irrigation is extremely desirable in such regions where the fear of famine is always present. (3) The driest parts of India, like the Punjab, Rajputana and Sind, where owing to the scanty rainfall irrigation is absolutely necessary.

In an earlier chapter of this book, we have indicated a few facts concerning irrigation works and their development under British Rule. Irrigation of land is carried out by canals, tanks and wells. In some parts, there is lift irrigation from rivers, and temporary dams for holding up flood water are also in use. The irrigation canals of India are of two types, those that are fed by perennial rivers and those that derive their water from artificial reservoirs. The most important storage works are those situated in the Madras Province, the Deccan, the Central Provinces and in Bundelkhand. Canals which draw their supplies from perennial rivers are either perennial or inundation canals. In the latter, water finds its way when the natural level of the river reaches the necessary height.

Irrigation works are broadly classed as productive or unproductive, according as the revenue derived from them covers the interest on the capital outlay within ten years of their construction or otherwise. The net interest earning of irrigation works—productive and unproductive taken together—was 5.92 per cent on the total capital outlay of 150 crores of rupees in 1937-38. If we eliminate unproductive works the interest earnings in that year stood at 7.68 per cent.

Development of Irrigation Schemes and Research

Sixty years after the Famine Commission had stressed the vital importance of irrigation development, the acreage of land irrigated by

canals is 26 million acres out of a total net area sown of 214 million acres. It was in 1893 that Voelcker wrote : "The special work of Agricultural Departments in this connection is to make an agricultural analysis such as that referred to in the Government of India's Resolution of December, 1881, whereby the requirements of each district in the matter of irrigation may be ascertained, as also the best means by which the improvement may be effected."[1] Nearly sixty years after the resolution of 1881, Sir John Russell observes : "It may be laid down as an absolute rule that no irrigation scheme should ever be carried out until a proper soil survey of the region has been made." "Barely one half of the water delivered at the head of canal reaches the field." Water-logging and the appearance of salts are problems that still await solutions. With regard to the salt trouble, "the indications are that it is getting worse." "A survey is urgently needed."

The Punjab Irrigation Research Institute at Lahore and the grants given by the Imperial Council of Agricultural Research are signs of newly awakening interest in irrigation problems. The construction of the Lloyd Barrage in Sind in 1932 was hailed with great hopes about the extension of agricultural land which the scheme would bring in its wake. We reproduce the following table showing acreage and production in Sind before and after the working of the scheme :—[2]

	Acreage in thousands			Production in thousands of tons		
	1913-14 to 1917-19	1923-24 to 1927-28	1933-4 to 1935-6	1913-4 to 1917-8	1923-4 to 1927-8	1933-4 to 1935-6
Cotton	264	399	649	—	—	—
Wheat	594	441	1,157	237	93	278
Rice	1,166	1,148	1,097	399	455	403
Jowar[3]	617	549	466	187	118	103
Bajri[4]	979	1,064	854	164	150	99
All grain crops except wheat	3,188	3,276	2,921	814	807	669
Fruits and Vegetables[5]	44	46	49	—	—	—
Oil seeds	404	299	194	—	—	—
All crops	4,609	4,554	5,141	—	—	—

These figures indicate an increase of acreage brought under cultivation for wheat and cotton. By 1935-36, about 600,000 acres of land were

[1] Op. cit. p. 92.
[2] Sir John Russell's Report, p. 136. Figures after 1936 are not available.
[3] Mainly in Upper Sind.
[4] Chiefly in Lower and Middle Sind.
[5] For two years only, 1933-34 and 1934-35.

brought under cultivation. But the area under the grain crops has declined in spite of the increased population. It is stated "that both yield and quality of jowar and bajri have fallen : the production of oil seeds has also decreased."[1] In view of this, doubts of a serious character may well be entertained, if the development of commercial crops like cotton and wheat under conditions of international competition is a sound policy, in a country where a self-subsistence economy is still so largely a characteristic of our agriculture. Sir John Russell's Report stresses the need for improvement in implements, for rotations, for better marketing arrangements, and refers to the lack of traditions of good cultivation amongst the new settlers. Ten years' working of a scheme which involved the expenditure of crores of rupees might surely have been attended by better results than those evidenced by these observations.

Value of Irrigation

The value of Irrigation projects may be considered from three different points of view. They may be undertaken for the satisfaction of local needs ; or secondly, for the raising of cash crops for export ; and, thirdly, for the maintenance of live-stock industry. In India with a population sunk in poverty and unable to afford even the construction of wells by their own resources, dependent moreover on the rains in considerable parts of the country, the primary task of the Government should have been to provide finance to the cultivators for digging wells and building tanks for the storage of water. Irrigation in India is needed for the satisfaction of the local needs of a population, constantly threatened with scarcity and famines. Statesmanship would have suggested a policy of state expenditure by way of advances to the cultivators, or a comprehensive programme of well and tank construction directly by the State for meeting these requirements. But even as late as 1928, the Agricultural Commission gave their solemn sanction to the laissez-faire view that "the construction of wells is essentially a matter for private enterprise." The development of irrigation works in India by the Government was directed to the construction of canals, which would promote the cultivation of cash crops like cotton and wheat. Canals have always been held to be of greater importance than tanks and wells and they have yielded a net seven per cent interest on capital outlay. The successors of the East India Company found it difficult to shuffle off the commercial traditions of the Company when they entered upon the responsible work of looking after the welfare of the millions, who were entrusted to their charge by the accident of history.

[1] *Ibid.*, p. 135.

There has been no thought in this country of utilising irrigation works for the maintenance of live-stock industry. The industry, if any, is purely self-subsistent ; thus our country cannot afford the luxury of the meadows of Provencal Plains and the Mountain Valleys of Europe nor the grasses of Western North America. It was in 1903 that the Irrigation Commission made a comprehensive report. Recognising the importance of irrigation to India, it laid down a policy of development which has subsequently brought about 25 million acres under canal irrigation ; but deficient drainage has led to water-logging, and underground water has brought deposits of mineral matter to the surface, forming infertile salt tracts.

When works assuring perennial irrigation are imposed upon a densely populated country, the absence of fallow causes soil exhaustion ; and this can be remedied only by expensive manuring. In India this expensive manuring is beyond the reach of the cultivators.

With the increasing pressure on land and acute land shortage, it might have been expected that Government should have considered it its primary duty to adopt a proper irrigation policy without reference to the investment aspect of the same. It is interesting to find an official report referring to the neglect of duty by the Government in this connection with regard to Bengal. " Central Bengal is at present a decadent tract. It is highly malarious, the population is steadily decreasing and the land is going out of cultivation. It may, of course, be the case that deterioration has already proceeded so far that it cannot now be checked and that the tract in question is doomed to revert gradually into swamp and jungle."[1]

Here as elsewhere, the need which is most urgent is the need for a planned economy that can clearly visualise the objective. This should primarily be the satisfaction of the local needs of the population of the country, and a proper planning of the needed food crops or commercial crops in reference to the soil and its potentialities.

Manure

The question of manure is a question of the highest importance for the improvement of agriculture. It is another modifiable factor where human effort and intelligence, play a large part in counteracting the operation of environmental conditions. In India, as in other countries, systematic agriculture in earlier days was associated with the application of animal manures to cultivated soil. The realisation of the importance of manuring for agriculture by the ryots is evidenced by a number of proverbs still current among the people.

[1] Report of the Irrigation Department Committee of Bengal, 1930, p. 11.

In the first place, the question of manure is intimately linked up with that of water. The one is necessary to the other. Without the presence of both, the cultivator cannot obtain the best that the soil can yield. "Irrigation," observes the Director of Land Records, Bombay, "cannot be carried beyond the limits which the supply of available manure fixes." It is a common saying that, if you give a ryot water and manure, he will grow a crop even upon stones. The cultivator is fully aware of the value of manuring. If, nevertheless, he burns the cow-dung which he collects, he has to do this as a matter of sheer necessity, because he has nothing else which he could use as fuel, and not because he is ignorant of the value of cow-dung. Moreover, he knows when to use, and for which crop to use, the manure at his disposal. He knows that he has got to use it on wet land where it will easily decompose and not on dry land. He knows the danger of using fresh cow-dung which might attract white ants and destroy his crops.

Cow-dung

The greater part of the soil of India with the exception of silt renewed tracts of Bengal and the Black Cotton soil requires careful manuring. It is a truism that the supply of manures in the country is notoriously inadequate. Amongst the sources of manure, the most important is cattle manure, or farmyard manure as it is called in England. But whilst in England, farmyard manure is supplemented or replaced by artificial fertilisers, in India it is the only commonly available source of manuring. Writing in 1893, Dr. Voelcker called attention to the regrettable practice common in his days of burning cow-dung as fuel. He demonstrated the richness of the organic matter contained in Indian cattle manure, and exposed the hollowness of the argument that cow-dung when burned does not imply a great agricultural loss. He pointed out that for every ton of cattle manure that is burnt 29.25 lbs. out of a total of 30 lbs. of nitrogen are altogether lost. Soils in India are exceedingly poor in vegetable matter, and, in the process of burning, the entire value of the organic or vegetable matter is lost. It has also to be remembered that a considerable quantity of cow-dung is used for plastering walls and floors of houses in the villages or for brick burning near large towns.

Dr. Voelcker called attention to the process of gradual soil exhaustion which would end in a decline of fertility and productive power. He urged upon Government the need for supplying manure to the land. "Of what use will it be to demonstrate at experimental farms the value of manure, and how to preserve it, when the cultivator has to burn it because he has nothing else for fuel ?"[1]

[1] Op. cit. pp. 132-33.

One of the recommendations that Dr. Voelcker made was to teach the cultivators the value of the use of litter put under the cattle for the better preservation of manure. He referred to the use of coarse grass, shrubs and weeds, which sprinkled on the floor under the cattle, would retain the urine and double the value of the manure.

Thirty-five years after Dr. Voelcker made his report, the Agricultural Commission tell us : "There has been little advance in regard to the preservation of manure since Dr. Voelcker wrote his report on Indian Agriculture in 1893. The practice of providing litter for cattle is rarely, if ever, adopted except on Government Farms. No efforts are made by the cultivator to preserve cattle urine . . . No attempts are made to preserve the manurial value of the contents."[1] The Agricultural Commission expressed the pious hope that "something can be done to promote the better preservation of such farmyard manure as is not diverted to consumption as fuel, by using it as a compost with village sweepings." Ten years later, Sir John Russell makes the same kind of apologia for Government inaction and lack of active interest, when he observes that the "wasteful practice of making manures into cakes and burning it goes on unabated for the simple reason that no other equally useful fuel is available." "The only way of stopping the practice is to provide an alternative supply of fuel."[2] Sir John Russell dismisses the possibility of villagers using the machine-produced hurricane and oil stoves for cooking, and repeats the hundred-times sung chorus of the desirability of planting quick growing trees near the village. He repeats, what Dr. Voelcker had so clearly indicated in his report, that as the content of Indian soil in nitrogen and organic carbon averages about 0.05 and 0.06 per cent respectively, there is need for organic manure.

Dr. Bal, Agricultural Chemist to the C.P. Government, in a paper read at a meeting of the Crops and Soils Wing in 1939, stated that decomposition of organic matter is very rapid, when a virgin soil is brought under cultivation, but it ultimately reaches a point where the recuperative and the destructive processes of the soil attain an equilibrium. Most of the Indian soils having been under cultivation over a period of centuries appear to have reached a more or less stationary state in respect of organic matter content. For this reason, he said, application of bulky nitrogenous manures like farmyard manure, poudrette and urine earth almost invariably give strikingly increased returns as illustrated by the results of experiments in the following table :—

[1] Report, p. 83.
[2] Op. cit. p. 57.

Crop	Treatment	Average yield in lb per acre
Cotton	No manure	318
	Farmyard manure 2½ tons per acre	532
Jowar	No manure	680
	Farmyard manure 2½ tons per acre	779
Paddy	No manure	992
	Farmyard manure 4000-8000 lbs. per acre	1,623

At the same meeting, the Commissioner of Agriculture, Baroda, observed : "There is no doubt whatsoever that very much more could be made of the live-stock urine than is now the case. This may not add anything in the way of humus, but it certainly adds to the nitrogen. Long continued experiments on sundhia juar, wheat and cotton at Nagpur show most conclusively that, the effect of the urine carefully conserved in dry earth is exactly equal to the influence on the crop to which it is added, as the cattle-dung of the same pair whose urine has been thus conserved. At the present moment a great deal of this is lost, the floors are hard and impervious, such urine as does sink in is largely confined to one or two spots which get over charged, and though a certain amount of this is scraped up in the daily removal of solid excreta and a handful or two of fresh earth is added, a great deal of what might be used is lost."[1]

The problem connected with cattle manure stands to-day precisely where it stood 50 years ago. In a country like India, where an increasing population makes an ever increasing demand upon the soil and on the food crops which it can yield, it should have been the primary duty of the Government apart from other things to prevent a decline in land yield which it should be interested in increasing. In times of scarcity, due to failure of rain, unmanured land may yield absolutely nothing as compared with manured land. Manuring may thus offer a partial protection which would make all the difference between famine and no-famine. Indifference to the recommendations of its own experts may be tolerated on questions which do not affect the lives of millions. But when it is a question of saving the lives of millions by such readily available measures

[1] The Imperial Council of Agricultural Research have calculated that the amount of cow-dung burnt is about 560 million tons, while Sir H Howard puts it at 250 million tons per annum. Even taking the lower figure the loss to our agriculture can well be imagined. The fertility of the fields, thus deprived of manure, decreases, and the soil gets more liable to erosion. At 3½ tons per acre per annum, the 250 million tons of cow-dung could adequately manure 72 million acres, that is about 30% of the cultivated area in India. (Sir Herbert Howard, Post-war Forest Policy for India, 1944 pp. 26-27.)

as planting of trees with the help of the Forest Department for the supply of fuel, and of spreading the knowledge of such improvements upon the present methods of using cattle manuring as the villagers can readily grasp and carry out, there can be no excuse for inaction or delay.

Green Manuring

In the course of the discussions at the second meeting of the Crops and Soils Wing of the Board of Agriculture held at Lahore in December, 1937, stress was laid by speaker after speaker both on the value of composts and of green manuring. The Director of Agriculture, Travancore, observed that, while the growing of green manuring crops was out of question in Travancore, they were growing green manuring trees whose leaves and loppings ploughed into the puddled soil gave satisfactory results. The Director of Agriculture, Sind, pointed out that the Sind Government had given a concession to cultivators to take one cutting of the crop as green fodder, and this was one of the potent sources of maintenance of soil fertility. The Deputy Director of Agriculture, S.C.D. Poona, stated that, due to increase in the cost of farmyard manure, sann green manuring was becoming popular in the Canal area as the best and most economic source of supplying organic matter to the soil to conserve its fertility, that such green manure is not only an effective substitute for farmyard manure, but that the sann crop prevents weeds and brings plant food from the deeper layers of the soil to its upper layers, so that it may be used up by the crops, that it increases the fertility of the soil, and improves the structure and texture of soils.

In support of the value of sann green manuring the following table was supplied by the Deputy Director :—[1]

Year	Crop after sann green manuring	No sann green manuring	Remarks
1929-30	.. 982 lbs	688 lbs	Wheat
1930-31	.. 844	506	„
1928-29	.. 2,352	1,792	Jowar (soil very good)
1929-30	.. 840	375	Jowar
1930-31	.. 1,307	734	Jowar
1931-32	.. 528	224	Wheat (dry)
1932-33	.. 1,456	827	„ (irrigated)
1933-34	.. 1,335	790	„ „

The proceedings of the Conference also showed a general opinion in favour of 'dhaincha' as green manure in different parts of the country.

In fact, green manuring is one of the important methods of restoring organic matter to the soil to maintain its fertility. According to

[1] Proceedings of the Second Meeting of the Crops and Soil Wing, pp. 189-90.

Dobbs, green manuring was known to the Indian farmers from times immemorial, and had been variously embodied in agricultural practice. Plant materials of all types in the green stage are put into the soil. Leguminous crops are grown and ploughed in the soil before the succeeding food or cash crop. It increases the humus and nitrogen content of the soil. In a tropical country like ours, with a rapid decomposition of the organic matter, the function of green manuring consists largely in the increase of the supply of assimilable nitrogen in the soil, and in furnishing the soil with readily decomposable matter. Green manure crops also protect the soil against erosion and conserves the nutrient elements, especially the nitrates, which would otherwise be leached down during the part of the year when no other crops are grown. Moreover, it increases the water holding capacity of a light soil, and transforms the phosphate and potash in the soil into an available form. It also exerts an important influence upon the activities of the beneficial soil micro-organisms and on soil tilth.[1]

Bones and Fish

Bones of dead animals and bone meal are little used in the country, in the first place, because of the ignorance and the age long prejudice of the people, secondly, because of the absence of accurate information with regard to the use of bones as manure in relation to different types of soil. Further, there is the difficulty of collecting and keeping the bones and of pounding them to powder. Thirty-five years after Dr. Voelcker had called attention to the desirability of experimental investigations into the value of bones as manure, the Agricultural Commission repeat the same recommendation : "The first essential is to obtain definite data in regard to the price at which, and for the crops for which, the use of bone meal is advantageous to the cultivator."[2] "Little information is available," says Sir John Russell ten years later, "about the proportions of nitrogen, phosphorous and potassium required for different soils and crops, or the proportions in which the organic manure should be used."[3] Thus, an important part of the fertilisers in the shape of bones and bone meal is lost to India by a failure to apply it to the soil and by export. The average exports of bones from India for the five years ending 1914-15 were 90,000 tons value at 64 lakhs of Rupees. For the five years ending 1924-25 they were 87,000 tons valued at 96 lakhs. So also the exports of fish manure for five years ending 1925-26 averaged 16,000 tons valued

[1] Pusa Bulletin No. 50 of 1915; see also "Green Manuring" by R. D. Rege in Indian Farming, Vol. II, p. 521.
[2] Report, p. 93.
[3] Report, p. 58.

at 20 lakhs of rupees. We reproduce below the important export figures for fertilisers for the year 1939 :

	Tons	Value in Rupees
Exports		
Bones for manurial purposes ..	15,424	11,84,473
Bone meal	25,072	14,85,764
Fish Manure	4,710	3,79,374
Guano . ..	178	19,045
Horn meal . ..	1,007	1,04,833
Sulphate of ammonia . ..	1,313	1,36,855
Other fertilisers	5,546	4,11,341
Total	53,250	37,21,685
Imports		
Nitrates of soda . .	2,137	2,23,891
Sulphate of ammonia	17,748	82,99,126
Muriate of potash . ..	1,829	1,82,606
Superphosphate . ..	6,788	5,65,290
Ammonium phosphate ..	2,569	3,95,166
Fish manure .. .	2,349	72,538
Other fertilisers .	7,032	7,78,757
Totatl .. .	99,452	105,17,374

Thus we are importing about 100,000 tons of fertilisers every year. About 20,000 tons of sulphate of ammonia and 2,000 tons of superphosphate are produced in our country. The world production of sulphate of ammonia and superphosphate is 4,000,000 and 15,000,000 tons respectively. It is obvious that our consumption of fertilisers for the size of our country is very low.

Oil Seeds and Cakes

Oil seeds and oil cakes are another important source of manure—particularly the latter. The Agricultural Commission pointed out that of the out-turn of the seed of cotton, groundnut, rape and mustard, linseed and sesamum, the exports amounted to an average of 18 per cent per annum over a period of fifteen years, 1911-25. Elsewhere we have given the figures for the export of linseed and groundnuts. The export of seeds and cakes implies the removal of a considerable amount of the constituents of the soil. If the cattle in India were fed with oil cakes, the manure would be returned to the soil whose fertility might thus be conserved. Apart from the soil, " to send away the entire seed or the refuse after the removal of the oil, is to send away the valuable manurial constituents contained in the seed ; in brief, to export them is to export the soil's fertility."[1] The latest figures before the outbreak of the present war would

[1] Voelcker, op. cit. p. 106.

indicate that we are still continuing to export about 22 per cent of our total production of rapeseed, mustard seed, linseed, castor seed and groundnuts.

Night Soil

The value of night soil has been increasingly recognised since the days of Dr. Voelcker. The Agricultural Commission likewise emphasize the need for using poundrette instead of crude night soil, and instanced experiments made at Nasik in the Bombay Province as well worth study by other municipalities. One has, however, to take into account the prejudices of the cultivator against the use of night soil, and the lack of active educative and propagandist work on the part of those who have been charged with the development of our agricultural industry.

Chemical Fertilisers

Sir John Russell notes in his report the results of the application of nitrogenous fertilisers to the soil. He admits, however, that the use of artificial fertilisers is limited, and that the relatively small amounts of these fertilisers are taken up almost entirely by tea growers.[1] In a country with an agricultural population which the soil cannot support under present conditions, a population saddled moreover, with a debt which grows with every generation, it would be futile to expect the use of artificial fertilisers on a large scale. The Agricultural Commission in their report pathetically observe with regard to the use of the artificial nitrogenous fertilisers, " While the economics of the industry remain as they stand to-day, we are unable to recommend any further investigation into the subject under Government auspices."[2]

The recent food crisis in India led to an investigation of the food grains policy of the Government, and the Gregory Committee Report recommended the establishment of a fertiliser industry with a capacity of producing 350,000 tons of sulphate of ammonia per annum as a short-term measure. A subsequent expert committee has suggested a plan for a single factory for the purpose at an estimated depot cost of 126 Rs. per ton.

As long ago as 1919, the Board of Agriculture in India resolved that " the Board should place on record their opinion that the conservation of the natural manures such as oil seeds, oil cakes, bones, including horns, and fish manures of all kinds for use in this country is a matter of the greatest importance." The Board recommended the imposition of an

[1] Op. cit. p. 58.
[2] Report, p. 91.

export tax on oil seeds and oil cakes and the total prohibition of the export of bones and fish. The Agricultural Commission expressed its inability to support this recommendation, on the ground that local consumption even in the most favourable conditions in recent years accounted for such a small fraction of the total production that the industry could not continue to exist on that fraction. They maintained, that the imposition of an export duty would involve a serious danger of the extinction of the industry by the closing down of its markets. But to those who look on economic institutions as means of satisfying human needs and not merely the making of profits, the question for levying export duties or of total prohibition of exports of manures is a question of what our people require and how these requirements can be met.

The Indian cultivator was familiar with the value of manure in the past. Even to-day the ryots "have a keen eye to the result of a good system of farming as exhibited on model farms, but they cannot derive much good from the knowledge, though they may take it in and thoroughly understand that superior tillage and proper manuring mean a greater out-turn in crops."[1] What the Indian farmer lacks is purchasing power. A price economy based on laissez-faire cannot make amends for this lack of purchasing power by experimental work on demonstration farms and encouragement of research on agricultural problems. That these have their value no one can dispute. But unless a system of large scale advances to the cultivator for the purchase of such available supplies of manure as exist, either through the Co-operative Credit Societies or by direct Government advances through the Department of Agriculture, is brought into operation, the problem of manuring cannot be solved.

CHAPTER IX

OUR AGRICULTURAL PROBLEM—(*Continued*)

Soil Erosion

The problem of soil erosion is not a problem peculiar to India. It is estimated for example in the U.S.A. that something like 17½ millions of acres of land which were once cultivated have been destroyed by gullying. In Illinois nine million acres which are subject to serious erosion have been rendered almost uncultivable. As for our country, the problem is of special importance in the United Provinces and Western Bengal, where

[1] Elliot James, "Indian Industries", p. 6.

extensive areas have lost their fertility by the formation of a net work of ravines. The monsoon rains on the hill sides in the Southern Districts of Bombay Province and Chota Nagpur produce the same results. In ordinary conditions, the soil is usually protected by vegetation against the disintegrating effects of wind and rain. As soon, however, as the vegetation is removed, the soil is exposed to wind and rain, making it useless for cultivation by the scooping out of ravines. Canals and ravines may be silted up washing out the river banks. With the removal of the vegetation, moreover, the soil ceases to soak in rain water, and wells, streams and springs may all run dry. The removal of vegetation follows upon an increase of population or an increase in the number of animals. Deforestation and uncontrolled grazing particularly by goats, sometimes by cattle, contribute to the denudation of the soil and this in turn is responsible for extremes of flood and draught which are the results of the gradual silting up of rivers. Cultivation on the slopes of hills has also been known to cause erosion.

Under these conditions, putting the upper slopes of hills into grass may afford protection as also bunding or terracing. The main protection against soil erosion is to be found in a policy of afforestation, which has to be judged not in terms of its dividend yielding capacity, as the Agricultural Commission suggest, but by the bearing of such a policy on the welfare of the coming generations. More than four decades after Dr. Voelcker had drawn attention to the urgency of protecting land from erosion by the plantation of shrubs and wild trees by the Forest Department, Sir John Russell's report makes the same recommendation in 1937. "The forestry department should be consulted as to the possibility of establishing small plantations as protection in places where the erosion is likely to occur, so that an undergrowth may have some chance of development." Sir John Russell's report is more explicit and goes further in its views on the question of erosion when it says that the need is for more action rather than more research. Protection against erosion should be a State responsibility and each erosion area should be dealt with as a whole. An erosion conference should be held annually at which forestry, animal husbandry, and soil experts meet the agricultural officers and advise as to what measures should be taken. The appropriate minister should then have power to carry out these measures and to distribute the costs over the lands protected.[1] The

[1] Russell's Report, p. 57. The Agricultural Commission took the view, however, that schemes for preventing soil erosion were to be left to private enterprise —"co-operative effort" or were to be financed by loans to individual cultivators. The Commission could not shake themselves free from the principles of English Liberalism in which most of them had been brought up. (Report, p. 80).

commercial traditions of the East India Company still seem to be operative in matters so vital to the life of the people as agriculture, and it has taken a hundred years for the Government to grow alive to the widespread loss, sometimes of an intensive character, arising from soil erosion.

Control of Pests and Diseases

Insects, pests and plant diseases are a source of serious loss to agricultural production which is estimated at about 180 crores of Rupees per year. Conditions in sugar cane fields are favourable to insect life, and large numbers of pests are known to occur. Among the worst are the borers which reduce the yield and the percentage of saleable cane. Cotton and food crops have similar problems. Sir John Russell recommends the institution of proper surveys of such pests, and the appointment of a visiting expert to advise as to the most suitable types of measures to be taken.

Three methods of controlling such pests are said to be in general use : (1) Avoiding the trouble altogether by finding resistant variety of crops. (2) Obviating the attack of the pest by some change in soil conditions, or in methods of cultivation. (3) Destroying the insect or fungus by chemical or biological means.

The entire problem with regard to pest and diseases, except in connection with cash crops like cotton and sugar, seems to be in an experimental stage of survey and investigation. With speed of transport in our days, it may be found impossible to keep out disease organisms from other countries, and it will be a long time yet before effective methods of dealing with plant diseases are, in the first place, scientifically determined, and, in the second place, effectively used by a sympathetic Government on an extensive scale with ability, to deal with provincial difficulties and differences. We may notice, however, that a beginning has been made in this direction by the Bombay Government which enacted in 1941, the Bombay Agricultural Pests and Diseases Act, based on a Madras Act of 1919.

Tillage and Technique

The methods of cultivation in India are to-day what they were centuries ago. They are fundamentally the same as those followed for centuries in the past in other countries. Agriculture is based on the attempt to satisfy the demand for grain as human food, for fibre, for clothing and oil for burning, with very little thought for animal food except such stocks and wild grass as may be found for grazing. In India, from early times, the sources of power is the bullock which gets the pre-

ference amongst cattle when fodder is scarce. The agricultural implements, the plough and the spade are the same as of old. Careful observers have pointed out that the methods of cultivation pursued in India are the result of centuries of experience, and are far from primitive and crude. Their methods of sowing seeds, of intermixing crops, of weeding and pruning, of changing and intermixing soils, of ploughing the fields upto a particular depth for a particular crop may be capable of being improved upon in the light of modern agricultural science and research—but they have been based upon experience handed down from generation to generation and cannot be dismissed as inefficient. "To take the ordinary acts of husbandry, nowhere would one find better instances of keeping land scrupulously clean from weeds, of ingenuity in device of water raising appliances, of knowledge of soils and their constituents, as well as of the exact time to sow and to reap, than one would in Indian agriculture, and this not at its best alone, but at its ordinary level. Certain it is that I at least have never seen a more perfect picture of careful cultivation combined with hard labour, perseverance and fertility of resource than I have seen at many of the halting places in my tour."[1] So also Sir John Russell: "The Indian ryot compares favourably with any of the peasant populations I have met in different parts of the world."[2]

But whilst the intelligence and empirical knowledge of the Indian ryot are thus recognised, perhaps over-stressed, in agriculture as in industry we have to adjust ourselves to the use of scientific methods and mechanical appliances, if we desire to increase our production and enable our people to escape from the poverty, to which they are at present confined, into a more comfortable and prosperous existence.

It is a truism that with improved methods of farming, application of manure, timely sowing, and mechanical appliances we could get much more from the soil in India than we do with "present methods." Two tables obtained from Mr. Keatinge's works[3] are representative of these possibilities of improved methods :—

Determining Factor	Percentage of crop increase available			
	Surat	Jalgaon	Poona	Dharwar
Manure	30	30	30	30
Cultivation ..	20	25	30	35
Seed	10	10	10	10
Drainage .	10	—	—	—
Field Embankments ..	—	15	15	20
Total ..	70	80	85	95

[1] Dr. Voelcker's Report, p. 10.
[2] Op. cit. p. 3.
[3] "Agricultural Progress in Western India," p. 104.

Value out-turn per acre

Crop	Obtained by villagers	Obtained on Government Farm with advantages mentioned above	
	Rs. as.	Rs.	Rs.
Jowar	24-13	55 (Kharif)	80 (Rabi)
Bajra	17- 4	38	
Wheat	24- 2	53	
Groundnut	45- 0	99	

Improved Seeds

Among the factors that make for improvement in yield may be included the use of better varieties of seeds. The following table indicates the extent to which improved varieties of seeds have been adopted in cultivation :—[1]

Crop	Total Acreage in million	Average under improved seed in million acres	Percentage
Sugar Cane ..	4.00	3.22	80.0
Jute ..	2.18	1.12	50.0
Wheat ..	33.61	6.96	20.6
Cotton .	26.00	5.04	19.2
Rice ..	83.53	3.58	4.3
Groundnuts ..	5.86	0.22	3.4
Millets[2] ..	38.69	0.34	Not calculated
Gram ..	16.90	0.33	as figures are incomplete

It will be noticed that the extension of area under improved varieties is confined to cash crops. The food crops have benefited to a very small extent. We are told that improved varieties have not been widely taken up, except of sugar cane and jute, because of the difficulty of obtaining seed. The Indian cultivator, even under the best of circumstances, has to depend upon the money-lender who is also a grain merchant for his supply of seed. A separate class of seed merchants is unknown in India. It would be one of the most useful functions for Government to be the medium for the supply of seeds. Facilities in this way could be offered to the cultivators for the purchase of good seeds, and advances for purchase of seeds might be made not only in times of scarcity but also in ordinary times. Dr. Voelcker in his report laid stress on Government experimental farms demonstrating the benefits of selected seeds and the utility of new varieties of existing crops, as also on giving facilities for the supply, purchase and distribution of good seed. Thirty-five years later, the

[1] Sir John Russell's report, p. 47.
[2] Including Jowar, bajra and ragi.

Agricultural Commission observed : "For a very long time to come seed distribution must continue to form one of the most important branches of their (Agricultural Departments) work."[1] The Commission recognised the desirability of a considerable increase in the number of seed farms in all provinces, and that such farms should be established as rapidly as funds and staff permit. Ten years later, Sir John Russell points out that the Agricultural Departments are overburdened with duties and advises the Council of Agricultural Research to set up some Central Organisation in each province for the multiplication and distribution of seed of approved varieties of crops. It is the same story again—the shelving of recommendations of the experts and commissions.

Rotation and Mixed Cropping

The practices of fallowing and rotation of crops were known to the Indian cultivator ; but the pressure of population on the land and the increasing demands made upon the soil have led naturally to a reduction in fallowing. Even to-day as regards mixed cropping and rotation, it is not unusual to find the cultivator, when drilling a cereal crop such as jowar to put in at intervals a few drills of some leguminous crop like arhar. This mixed cropping has the advantage of providing agriculture against the fluctuations of season, so that if for any reason one crop fails the other will stand. This is a matter of importance for one who has to feed a large family and cattle on a few acres of land.

Dr. Voelcker pointed out innumerable instances of rotations of crops found in almost every part of the country, where several sorts of crops are grown together, wheat, barley and gram or these with rape as well. There are systems in use which are far more complicated than the above —not only rows of different crops side by side but the alternating rows made up of mixture of different crops, some of them quick growing and reaped early, others of slower growth, and reaped after the former have been cleared off. Some are deep rooted plants, others are surface feeders. The whole system is designed to cover the land, and thereby to prevent the loss to the soil which would result from the sun beating down upon it, and from the loss of moisture which it would incur. It may be admitted that these rotations actually practised can be improved upon, and that inferior cultivation has sometimes resulted from injudicious rotations. But the attention of Government has been centred on the rotations connected with cotton and sugar. The Agricultural Commission confessed that it was impossible for them to make exhaustive enquiries in regard to crops which did not come within the purview of the Indian

[1] Report, p. 102.

Cotton and Sugar Committees. Sir John Russell reviewing the work done under the direction of the Imperial Council of Agricultural Research could only refer, in a report covering 230 pages, to the possibilities in Sind under the Lloyd Barrage Scheme of an intensive rotation of cotton, berseem, wheat ; and even here he had to admit that rotation would involve manuring ; and that though there was considerable local demand for fodder, and scope for the development of a live-stock industry, dairy produce would be hampered by distances from markets.

In brief, there is not much scope for improvement on the present methods of rotation and mixed crops. If there is scope, investigations on better methods have been centred on cash crops like cotton and sugar. As regards a staple of food like rice, it was pointed out by Dr. Voelcker that rotation is not practised with rice, and that this can be readily understood when one takes into account the conditions under which rice is grown. Silt renewed lands require no manure and are plentifully supplied with water, and are thus independent of the manurial benefits secured by rotation. Forty-five years later Sir John Russell observes : "Experience generally is in favour of rotations rather than single cropping. Rice is of course the great difficulty : alternative crops and sequences are easier to arrange on light than on heavy soils. specially those liable to be flooded."

Implements

Ploughs have been made the subject of attempted improvement. Iron ploughs have been used on Government farms ; but they have not found their way among the ryots. The causes are not difficult to understand. The price of a wooden plough is very much lower than that of an iron plough. The latter is heavy to work and cannot be carried on the cultivator's shoulder from field to field. There is further the difficulty of repairs, as it cannot be easily repaired except in a small foundry. Deep ploughing with an iron plough might bring up limestone to the surface, with the possible loss of moisture in the soil. Deep ploughing, moreover, might necessitate greater quantities of manure than the cultivator can afford and contribute to the spread of weeds by digging them in. For rice cultivation, the wooden plough has definite advantages over the iron plough. The Agricultural Commission observe that agricultural implements in India are well-adapted to local conditions. "They are within the capacity of the draught oxen, comparatively inexpensive, light and portable, easily made and easily repaired and they are constructed of materials which can readily be obtained. In spite of these advantages, there is undoubtedly very great scope for improvement in the light of

modern knowledge of soil conditions. The Agricultural Departments have, however, so far done disappointingly little in this direction."[1] 17,000 improved ploughs were sold in 1925-26. A total of 25,000,000 ploughs were in actual use in British India in the same year. Sir John Russell strikes a more hopeful note when he observes, "The new implements are not always more effective than the old, but they are lighter, require less labour of men and of bullocks, and they do their work more rapidly. Economy of bullock power means that the large cultivator need not possess so many bullocks and so can better feed his milch cattle ; and speed of work means that operations can be done just when necessary, and when therefore, they are most beneficial."[2] There are possibilities of improvement in the bullock cart in the shape of ball bearings and rubber tyres—though the problem may be simplified by the development of motor transport.

Under present conditions, with the small and scattered holdings that mark Indian Agriculture, the use of agricultural machinery like steam tackle and motor tractors is obviously outside the purview of the cultivator. The Indian Sugar Committee observed with regard to motor tractors that their use would be more economical than steam tackle, and that a tractor would displace eight to ten pairs of bullocks. But little progress in this direction has been made even on large-sized farms, owing to insufficiency of investigations into the economics of cultivation by these means.

\Live-stock

In a country like India where the only motive power as well as means of transport is the bullock, the prosperity of agriculture depends among other things on the live-stock. Whilst in most parts of the world, cattle are valued primarily for food and milk, in India their value is mainly determined by their use for agricultural operations. In Western countries, horses played a predominant part in the past, and are now being replaced by mechanical appliances.

It is difficult to place a definite monetary value on cattle labour. According to the 1931 Census, India has 300,000,000 animals excluding pig and poultry. Out of this, 220,000,000 are in British India. India has the largest cattle population in the world. The U.S.A. stands second with an animal population of 140,000,000, excluding pigs and poultry. According to calculations based on the price of 1929, the annual value of live-stock and animal products was estimated at over Rs. 2,000 crores per annum. Taking a 33 per cent fall in 1929 prices, the value of the various

[1] Report, p. 107.
[2] Op. cit. p. 59.

items has been calculated as below :—[1]

	Crores of Rupees
Milk and milk products	540
Cattle labour in agriculture	408
Manures	180
Labour for purposes other than agriculture	107
Other products	30
Live animals exported	0.12
Total	Rs. 1,265.12

This does not include the value of poultry. As Mr. Macdonald observes, "Poultry farming in most countries is regarded as the Cinderella of agriculture, and in no country is this term more apt than in India, for until recent years practically no attention has been devoted to any branch of production or marketing."[2] Specialised and organised poultry farming is conspicuous by its absence. Yet it would appear to be an important element in our economy. The Egg Marketing Report for India and Burma gives the following figures :—[3]

	Lakhs of Rupees
Desi Fowls	514.7
Improved fowls	7.3
Ducks	54.8
Geese	1.6
Turkeys	0.1
Guinea fowls	4.2

Poultry is a sadly neglected branch of agriculture. It is an important element in our rural economy, because more than 60 per cent of the hen eggs and 80 per cent of the duck eggs are actually sold in the market and not consumed by the producers themselves. The total value of the eggs sold is estimated at Rs. 5¼ crores per year and that of birds at Rs. 7 crores. Our egg production is comparatively very low, 54 eggs per bird as against 100 to 120 eggs per bird in other countries. The size is also about two-thirds of that in other countries which employ modern methods of production. The low egg production has been attributed to factors such as poor stock, disease, malnutrition and general mismanagement. The per capita consumption of eggs is calculated at eight as against 150 to 300 in other countries. The few facts indicated above show that in animal industry we possess "an enormous potential wealth, probably greater than the value of a single industry in any other country in the world."

[1] "Animal Industry", in "Economic Problems of Modern India", Vol. I, Edited by R. Mukerjee, 1939, p. 140.
[2] "The Poultry Industry in India," in Indian Farming, Vol. I, p. 60.
[3] *Ibid.*

The monetary value of cattle labour has been estimated at Rs. 400 crores roughly per annum. An enquiry into the value of cattle labour in holdings in the Punjab estimates the cost of cultivation under cattle labour at between 15 and 20 per cent, and this has been confirmed in a recent investigation.[1] Assuming the total value of India's agricultural production at Rs. 2,000 crores, the share of cattle labour would obviously be between Rs. 300 and Rs. 400 crores. The Agricultural Commission estimate the cost of feeding and depreciation of a pair of bullocks at Rs. 175 per year. A pair of bullocks are needed to cultivate ten acres of net sown area. Assuming the acreage sown with crops in British India at 230 million, we get the same value namely Rs. 400 crores for cattle labour.

According to a recent estimate, the world's cattle population is about 690 million animals. Of these 152 million are located in British India. With regard to the increase or decrease of cattle during the last few decades, the evidence afforded to us by the following table does not support the view that the number of live-stock is decreasing :—

Year	Bovine live-stock in million
1910-11	121
1919-20	146
1925-26	150
1929-30	152
1935	107[2]
1940	110[3]

As a matter of fact, for the reasons indicated in the last foot-note, the figures given in the official census of 1935 and that of 1940 are not reliable and we may safely maintain that the bovine population has not decreased during the last ten years.

When we compare the number of cattle per hundred of the population in different countries, we have to remember that cattle in India are chiefly valuable for draught purposes, that meat is not a staple article of food, and that milk is chiefly produced as a by-product of agriculture. Elsewhere, cattle are valued for meat and for diary products. It has also to be remembered that in India a large number of cattle are old and decrepit, and instead of being an addition to the income are a burden on an already impoverished soil. Under these conditions, a reduction

[1] Investigation carried out under the direction of the Imperial Council of Agricultural Research.

[2] In the 1935 Cattle Census, two provinces namely U.P. and Orissa were omitted.

[3] In 1940 Census, Bengal, Bihar and Orissa were omitted. It is impossible, therefore, from these figures to arrive at any conclusion with regard to the relative growth in the numbers of cattle.

in the number of live-stock so as to bring the live-stock population into line with the supplies of food would tend to relieve the burden on the soil. Economic pressure by the enclosure of grass lands, the practice of castrating scrub bulls, and improvements in farm implements, particularly in the bullock cart, reducing to that extent the need for bullocks may contribute towards a diminution in the cattle population which will in turn favourably react on agriculture.

Cattle and Grazing

A large proportion of the cattle of this country depend entirely on grazing for their nourishing, and such grazing is only of value for about five months in the year. In India, "the custom is that the animal, when not working should find its own food on the village common, or on uncropped land, or in the jungle when there is no fodder available on the holding. The by-products of cereals and pulses are stored and fed to cattle as long as they last ; but very rarely indeed do cultivators resort to outside sources, for example, to the supplies of baled dry grass available in forests. Thus we were informed in the Central Provinces, where much grass is baled in the forests, that in one locality only did cultivators purchase it.[1] . . . In other provinces, we were informed that in accordance with the general policy favoured by the Forest Department, Forest Officers would gladly encourage grass cutting by villagers, but that no demand for it existed. These forest supplies are looked upon as famine reserves, not to be used in normal times. This difference between the cattle owners of the East and West must be kept in mind in considering all suggestions for cattle improvement."[2] The Agricultural Commission observed that action which in many countries would render owners liable to prosecution is regarded in India in an entirely different light. If this is intended to be a reflection on the Indian cultivator, one might well ask if this is not one of those hasty generalisations based upon preformed prejudices about the ignorance of the Indian cultivators, and whether the tradition about forest supplies as famine reserves was not built upon the blunders of Forest Administration. After a careful examination of the situation, the Agricultural Commission observe : "Having regard to the poor quality of the grazing available, and to the fact that it fails to afford adequate maintenance for cattle at the season of the year when fodder grown on the cultivated land is scarcest, we are of opinion that this number of cattle is a heavy stock for land to carry. If the cattle are to yield a profit which would be accepted as satisfactory in countries, where stock keep-

[1] Have the cultivators necessary purchasing power ?
[2] Agricultural Commission Report, p. 200.

ing is strictly economic, the bullocks would require to be fully employed, the cows to be of a heavy milking strain and the manure to be carefully conserved and returned to the land."

The total number of cattle in India is determined by the number needed for work on the land. The Agricultural Commission point out that, assuming the cattle to be efficient, there would appear an excess in the number of cattle. The worse the conditions for rearing efficient cattle, the greater tend to be the numbers necessary for agricultural purposes. Cows become less fertile, their calves are undersized, and this compels the farmers to breed more and more cattle. As numbers increase, the pressure on the available supply of food leads to still further deterioration in the quality of the cows. As cattle grow smaller in size and greater in number, the amount of food needed in proportion to their size increases. Thus, a large number of small-sized cattle involve a serious drain on a country in which the fodder supply is so scarce as it is in India in certain seasons. Attempts at improving the quality of the live-stock by distributing better bulls are partially frustrated by the number of animals relatively to the supply of food. The main problem of animal husbandry is that of increasing the production of food for animals. As Sir John Russell observes, the amount of food produced is insufficient for the large number of animals in India. Many of them are inadequately fed. The bullock may be treated a little better, but the cow is not so well-fed and with a low diet gives only a poor yield of milk.

Importance of Cattle for Soil Fertility—Mixed Farming

The cash value of cattle manure in India has been estimated at between 180 and 270 crores of rupees. This estimate has been criticised as being based upon very meagre information. At present, we are maintaining a dense human population by methods which are suited to an extensive system of farming. Large areas are farmed to offset low crop yields. Such methods may be suitable to newly developed countries like Canada and Australia, where the population is small and the land is ample. In India with a density of 200 square mile, it is desirable that the output of produce per acre should be high. Under these conditions, the development of agriculture requires "the dovetailing of the arable and animal husbandries into one mixed-farming system." "The cattle problem dominates the whole situation."[1] A mixed farming system involves the utilisation of all available manure and the cultivation of leguminous fodder crops, which contributes to soil fertility. The fodder crops would

[1] B. A. Keen, "The Real Problem in India" quoted in Dr. Wright's Report on the Development of the Cattle and Dairy Industries of India, 1937.

in turn provide an ideal source of food for cattle, and particularly for milking stock. Under mixed farming, the production of animal products such as milk will be carried on side by side with a system in which leguminous fodder crops will maintain the fertility of the soil, and the resulting increase in crop yields will offset any increase in the cost of production of milk. This is borne out by the experience of other backward tracts. Writing about the agriculture of Nigeria, the Gold Coast, and Sierra Leone, Stockdale observes : "Larger yields of crops are being secured, and the farmers, in addition to having more ample food supplies and larger quantities of economic crops for sale, are also being provided with supplies of animal products such as milk and butter, for their consumption and sale. There is no doubt that they have been enabled to live better than was possible under the old order, and in consequence it is expected that their own health and that of their families will benefit."[1]

The Problem of Milk and Dairy Industries

When considering the question of improving the breed and quality of cattle, as the Agricultural Commission pointed out, care should be taken not to attempt to produce a "dual purpose" animal, suitable both for draught and for milking and ghee production. The Commission suggested that milking qualities should be encouraged only in so far as these are consistent with the maintenance of the essential qualities which good draught cattle must possess.[2] India has a per capita production of milk which is very low as compared with other countries. The following figures indicate this :—

Country	Annual production of milk per head of cattle	Country	Annual production of milk per head of cattle
Denmark ..	387 gallons	Finland ..	344 gallons
Switzerland ..	380 „	Sweden ..	326 „
Netherlands ..	373 „	India ..	30 „
Belgium .	362 „		

Thus, Denmark with only one-seventieth of the number of cattle produces about one-fifth of India's output of milk. Ten years ago, we had an export trade in dairy produce, mostly ghee valued at about Rs. 36 lakhs per annum. This is now reduced to negligible proportion and there is a rapidly growing import of milk products. The output of milk in India is large, between 700 and 800 million maunds or between 5,600 and 6,400 million gallons per year. Compared with other countries India stands second in volume of milk production. But owing to the density

[1] Quoted in Wright's report, p. 60.
[2] Report, p. 212.

of her population, the per capita consumption of milk is extremely low. It does not exceed six ounces per head per day. If consumption is to be increased, it is not only necessary to increase the present output of milk but to effect such economies in the cost of production and distribution as will bring it within the purchasing power of the mass of the population. Marketing surveys show that out of the total output about a third is consumed as liquid milk. Of the remainder, 75 per cent is converted into ghee, and over 22 per cent into khoa, dahi, and other indigenous products. Western products such as 'creamery' butter and cheese are scarcely used except by Europeans and a few Indians. "An increase in the value of the ghee by one per cent would add more to the wealth of the dairy industry than the replacement of the whole of the imported milk products by home produced articles."[1]

The development of the indigenous milk products like ghee and dahi is largely determined (a) by the fundamental difficulties involved in handling milk under tropical conditions and (b) by lack of adequate transport facilities. Moreover, as 90 per cent of the population live in villages, attention should be concentrated on the supply of milk and milk products for direct consumption by the rural population. The combination of producers on a village industry basis provides the most effective form of dairy organisation in India. Above all, any improvement in production must be supplemented by the provision of improved marketing facilities.

The methods of producing and handling milk in India require careful investigations to be carried out in practice under village conditions. Dr. Wright in his report suggests heat treatment as well as refrigeration as methods of prolonging the keeping quality of milk. Refrigeration, however, is too costly and could only be used for the despatch of milk from distant producing areas to large cities. As regards distribution, the possibility of a cheap method of loose milk delivery, eliminating gross forms of contamination, on the lines employed in Great Britain thirty years ago, needs investigation according to Dr. Wright. This would involve the use of a milk can with a wide mouth for cleaning and a hinged lid which would protect the milk during transit, costing five to ten rupees per can. The use of taps is not advisable, as they are difficult to clean and sterilise.

As regards ghee, it would appear from figures collected in different provinces that 65 per cent of the samples of ghee examined were adulterated. Cheap methods of detecting adulteration might be devised and increased marketing facilities provided.

[2] Wright, op. cit. pp. 9-10.

With regard to the distribution of pedigree bulls, the number of stud bulls at present represents only one per cent of India's requirements. Progress can only be achieved by increasing the number of approved stock raised in villages and the purchase of such bulls for distribution. There is no single measure which would do more towards increasing and cheapening milk production in India than an improvement in the milk yields of Indian cattle. At present, the yields of village cattle average about 600 lbs. a year or an average of four to six lbs. a day. An increase in yield would lower the cost of milk production by spreading maintenance costs and costs of labour over a larger output of milk. Breeding experiments at various centres show that by careful selection indigenous strains of Indian cattle can be built up capable of giving milk yields which can compare with those of average European stock. The majority of milch cattle in India are seriously underfed, as evidenced by the slow rate of growth and the long dry periods. A larger food supply is essential, and coarse fodders need to be replaced by leguminous crops like berseem and lucerne (alfalfa). These are important even for Indian agriculture as they increase the fertility of the soil. Linseed, cotton seed and earthnut cakes contain rich protein concentrates, and fed to cattle might contribute to improved milk yields. The lack of purchasing power for such fodder on the part of the agricultural population can only be tided over by a properly planned rural finance policy.

CHAPTER X

SUBDIVISION AND FRAGMENTATION OF HOLDINGS

Subdivision of holdings indicates the diminution of the total size of the individual farm as a result of partition of property between different heirs under the Laws of Succession and Inheritance. Fragmentation of holdings involves the breaking up of a single holding into scattered strips often separated by long distances. Subdivision of holdings is due chiefly to the Laws of Inheritance both amongst Hindus and Moslems, which enjoin succession to all the heirs in equal shares. As Radhakamal Mukerjee puts it : " Indeed, the tendency towards subdivision, which has been manifest in India during the last few decades only, has been the outcome of the interpretation of Hindoo and the Mohamedan law by English judges, with their strong predilection for individual succession

to and private enjoyment of rights in land."[1] The acquisition of land by moneylenders accentuates the evil, by creating a number of small holdings and reducing the total left to be divided amongst the heirs. The social usage which sanctions the claim of each heir to a separate share in each quality of plots in the village results in fragmentation.

The low agricultural productivity of land in India has been frequently ascribed to this progressive subdivision and fragmentation of holdings in almost all parts of the country. As early as 1916 Mr. Keatinge, the Director of Agriculture, Bombay, observed : "It has long been a subject of comment in India that the land holdings of cultivators have become subdivided upto a point at which they are now in many localities very small, and that the holdings whether large or small, are frequently fragmented in a manner which is very prejudicial to effective cultivation. This progressive process of subdivision and fragmentation is due to the increase of population, and to the fact that the Laws of Inheritance which are enforced in this country operate in such a way as to give to each male member of a landholder's family a share in the family land. . . In the Bombay Presidency in general, and in particular in the Konkan, West Deccan, and the garden and rice tracts of Gujarat, subdivision and fragmentation have reached an intolerable point. . . . Fields measuring less than half an acre are found to be sub-divided into more than 20 separately owned plots, many of them of less than one guntha a piece."[2]

Bombay Province

Thus, in the Borsad Taluka (Kaira District, Gujarat) the following table shows the number and size of holdings in the Taluka with 72 villages in 1901 and 1921 :—

Size	Number	Percentage	Number	Percentage	Percentage increase or decrease of holdings Since 1901
5 acres and below ..	7,740	58	19,740	82	+125
Between 6 and 25 acres .	5,107	38	3,916	·16	— 23
Between 26 and 100 acres	570	4	432	2	— 3
Between 100 and 500 acres	30	—	29	—	—
Total ..	13,477	100	24,117	100	+ 79

	1901	1921
Total area in acres .	94,660	92,639
Average holding in acres .	7	3.8

Thus, it would appear that within twenty years the total number of holdings increased by 79 per cent ; but whilst the average holding was

[1] "Land Problems of India," 1933, p. 55.
[2] Statement of objects—Draft Bill for Consolidation of Holdings, 1916.

seven acres in 1901, it was reduced to 3.8 acres in 1921. If the process of subdivision has proceeded at the same rate during the last 20 years, the size of the average holding to-day would be less than two acres. According to Mr. Patel to whom we are indebted for the table, a pair of bullocks could on an average cultivate 25 acres of land in a year, and this constitutes an economic holding, according to the Broomfield Committee. In 1921-22, out of about 21,000 holdings in the Taluka only 349 holdings or less than two per cent were over 25 acres in size. An economic holding defined in this way would be too large for the Borsad Taluka. "We, therefore, choose, to define an economic holding from the point of view of the standard of the people in the Taluka. . . . The size of the economic holding in our Taluka should be about 12½ acres per family. . . . The size of the actual holding per family of cultivators is about two-thirds of the economic holding we have calculated."[1]

So also, a survey of certain selected villages in the Olpad Taluka in Gujarat in 1929-30 adopts 20 acres as the size of the economic holding, "taking all the pertinent factors into consideration and assuming the average size of a family at 5 persons." The following table shows the extent of uneconomic holdings in the Taluka :—[2]

Summary Table Holdings according to Groups of Villages

Group	Total number of holdings	Number of holdings of or above the size of economic holdings	Number of uneconomic holdings	Percentage of uneconomic holdings to the total
I	92	19	73	79·3
II	128	7	121	94·5
III	76	9	67	88.1
IV	92	3	89	96.7
V	203	8	195	96.0
Total	591	46	545	92.2

Dr. Harold Mann, Director of Agriculture in Bombay, published in 1917 the results of an enquiry in a typical Poona village. According to him the average holding was 40 acres in 1771, 14 acres between 1820-40 and 7 acres by 1914-15. 81 per cent of the holdings according to him, could not maintain their owners under the most favourable circumstances. He concludes : "It is evident from this that in the last 60 or 70 years the character of the land holdings has changed. In the pre-British days, and in the early days of British Rule, the holdings were usually of a fair size, most frequently, more than 9 or 10 acres, while individual holdings of less than two acres were hardly known. Now the number of holdings

[1] A. D. Patel, "Indian Agricultural Economics," 1037, pp. 124 and 171.
[2] J. B. Shukla, "Life and Labour in Gujarat Taluka," 1937, p. 92.

is more than double, and 81 per cent of these holdings are under 10 acres in size, while no less than 60 per cent are less than 5 acres."[1]

We have equally striking evidence about the increasing subdivision of holdings in the Bhiwandi Taluka, Thana District, given to us by Dr. Bhagat in a recent study. He gives us the following table showing average holdings based upon a study of 9,584 khatedars :—[2]

Holdings	1886		1903		1921		1937	
	No.	Per centage	No.	Per-centage	No.	Per-centage	No	Per-centage
Under 5 acres	3,731	49.7	6,416	62.6	10,458	74.2	6,638	69.1
5 to 25 acres	3,041	40.5	3,205	31.6	3,404	24.1	2,426	25.5
25 to 100 acres	694	9.3	556	5.4	206	1.4	438	4.5
100 to 500 acres	39	.5	41	.4	30	.3	79	.9
Over 500 acres ..	—	—	—	—	—	—	3	negli-gible
Total	7,505	100.0	10,218	100.0	14,098	100.0	9,584	100.0

In 1927-28, Mr. Mukhtyar undertook a survey of the village of Atgam in Bulsar Taluka, Surat District. There were 461 families in the village of which 249 or 54 per cent were agriculturists. He gives us the following tables showing the extent of subdivision and fragmentation :—[3]

Subdivision

Number of Holders	1900-01	1917-18	1926-27
With more than 100 acres	1	1	3
„ 71-100 acres	5	3	—
„ 51-70 „ . .	8	6	8
„ 31-50 „ . .	21	9	7
„ 15-30 „	34	37	37
„ 6-15 „ .. .	39	107	95
„ 1-5 „ . ..	67	132	133
Below 1 acre .. .	44	109	143
Total ..	219	404	426

Fragmentation

Number of Fragments	Number of Holdings with specified number of fragments	Number of Fragments	Number of Holdings with specified number of fragments
1- 5 ..	286	21-25 ..	7
6-10 ..	62	26-30 ..	8
11-15 ..	42	31-40 ..	6
16-20 .	22	More than 40 ..	3

[1] Dr. H. H. Mann, "Land and Labour in a Deccan Village," Vol. I, 1917, p. 46.

[2] Dr. M. G. Bhagat, "The Farmer—His Welfare and Wealth," 1943, p. 93.

[3] G. C. Mukhtyar, "Life and Labour in a South Gujarat Village," 1930, pp. 110-115.

Size of Plots	Number of Plots of each size	Size of Plots	Number of Plots of each size
Above 10 acres	30	5-6 acres	39
9-10 acres	12	4-5 „	58
8- 9 „	11	3-4 „	75
7- 8 „	20	2-3 „	135
6- 7 „	18	1-2 „	320
		Blewo 1 acre	1,924

Size and Number of Plots below one acre

30-40 gunthas	201	10-15 gunthas	339
20-30 „	311	5-10 „	339
15-26 „	216	Below 5 „	305

(One Guntha=1/40 acre)

Madras Province

In South India, Dr. Gilbert Slater had undertaken a survey of a number of villages with a view to obtaining an accurate idea of the process of subdivision of holdings. This was undertaken in 1916. A resurvey of some of these very villages was undertaken in 1936 and the results are indicated in the following tables :—

Village of Vadamalaipuram (Ramnad District)

Size of Holdings	1916 Number of holdings	1916 Extent in acres	1936 Number of holdings	1936 Extent in acres
Between 1 and 10 acres	38	250	121	535
„ 10 „ 25 „	38	649	37	594
„ 25 „ 50 „	12	469	8	264
„ 50 „ 100 „	3	471	1	105
„ 100 „ 250 „	3	211	3	160
Total	**94**	**2,050**	**170**	**1,658**

With a reduction in total area there is a simultaneous increase in the number of holdings since 1916. The average holding is just half in size of what it was in 1916. It may also be noticed that subdivision has gone farthest in the smaller holdings of one to ten acres.[1]

Taking another village, Guruvayur, Malabar District, the following table indicates the extent of subdivision that has taken place in 1936 :—

Size	Number	Extent in acres
Below ¼ acre	106	13.19
Between ¼ and ½ acre	125	44.68
„ ½ „ 1 „	152	100.49
„ 1 „ 2 acres	69	95.73
„ 2 „ 5 „	62	192.78
„ 5 „ 10 „	24	169.73
„ 10 „ 20 „	11	145.82
Above 20 acres	7	397.99
Total	**556**	**1,160.41**

[1] "South Indian Villages—A Resurvey," edited by Thomas and Ramkrishnan, 1940, pp. 9-10.

The average size of the holding in this village is 2.1 acres. In a coconut tract intensively cultivated, this size would not necessarily be uneconomic. But as the figures indicate 68 per cent of the total holdings are below one acre and 42 per cent are below half an acre each.[1]

About the village of Gangaikondan, Tinnevelley District, we are told: "There has been a great increase in the number of tenants in the last fifteen or twenty years. . . . Many of these tenants are also agricultural labourers in their spare time." It may be noticed that, while there is a reduction in the number of land holders, there is less concentration of land in the hands of big landlords. This will appear from the following table :—[2]

Village of Gangaikondan (Tinnevelly District)

Size	Numbers of owners	
	1916	1934
Below 1 acre	105	100
1 to 5 acres	220	600
5 to 10 „	250	50
10 to 20 „	100	30
20 to 50 „	160	50
50 to 100 „	90	3
Total	925	833

On the question of fragmentation of holdings, specific data were not available, say the editors of this resurvey of South Indian Villages, in 1916 with regard to most of the villages. Dr. Slater, though specially interested in the question, did not get enough detailed answers. "More information has been secured on this question in 4 out of the 8 villages which have been resurveyed. . . . There is room to think that the position has worsened in twenty years."[3]

Other Provinces

The Land Revenue Commission which was appointed in Bengal, 1939, presided over by Sir Francis Floud, visited the province of Madras for the puproses of comparing conditions in other provinces with those of Bengal. They observe in their report : "Assuming 70 per cent to be the proportion of the agricultural population in 1931, the agricultural population of the province would number 32.7 million. The total net cultivated area is 31.7 million acres, and the average area per head of the population is, therefore, slightly less than one acre." "It seems that the average area in possession of a family in Madras is barely sufficient for its maintenance. The same problem exists, as in Bengal, of uneconomic holdings and the splitting up of holdings. The subdivision of ten-

[1] *Ibid*, pp. 301 and 339.
[2] *Ibid*, pp. 71-72.
[3] *Ibid*, p. 340.

ancies is going on even more rapidly than in Bengal owing to th pressure of the population. 74 per cent of the pattas or raiyatwari holdings covering 36 per cent of the total area have an average area of 2.2 acres."[1]

So also writing in another connection the Floud Commission observe: "One of the most disquieting features of the enquiries made for the Commission by the Director of Land Records is that the percentage of families holding two acres or less is 41.9 and the percentage holding between 2 and 4 acres is 20.6. If these figures can be taken as representing the economic position throughout the Province, it means that two-fifths of the agricultural families hold an area of two acres or less, which is insufficient for their maintenance, and that they are compelled to take land as bargadars, without any legal rights, or to supplement their income by working as day labourers. . . . However we look at the problem of uneconomic holdings, we are forced to return to the fundamental fact that there is not enough land to go round. There is now slightly less than one acre of cultivated land per head of the agricultural population."[2]

The same story is given to us by Dr. Calvert with regard to the Punjab. The following table shows to us the size and distribution of cultivators' holdings in the Punjab :—[3]

Size	Number of Holdings	Percentage of the total
1 acre and less	68,664	22.5
1 to 2½ acres	46,917	15.4
2½ to 5 „	54,461	17.9
5 to 7½ „	34,285	11.2
7½ to 10 „	28,370	9.3
10 to 15 „	31,000	10.2
15 to 30 „	31,752	10.4
30 to 50 „	6,729	2.2
50 and over	2,741	9.9
Total	304,919	100.0

The total cultivated area in the Punjab was 2,193,860 acres. This gives us an average of 7.2 acres per family. It will also be noticed that 55.8 per cent of the total holdings were below 5 acres.

In the United Provinces, observes Radhakamal Mukerjee. "in the district of Jaunpur the average size of a tenant's holding is 3.5 acres. In the Gorakhpur District, in Pargana Sidhna Jobua, the average holding

[1] Report of the Land Revenue Commission, Bengal, Vol. II, 1940, p. 30.

[2] Report, Vol. I, p. 86. These conclusions were based upon investigation into the economic conditions of nearly 20,000 families in selected villages.

[3] Board of Economic Enquiry, Punjab, Size of Holdings by Dr. Calvert.

was found at the time of the last settlement to be only 1.3 acres ; in Hata it was 0.9 acres, and in Salimpur it was 0.65 acres. It is probable that in such districts as Jaunpur and Gorakhpur several thanas of which exhibit some of the highest records of rural density, more than half the cultivators possess uneconomic holdings on which they are working at a loss. Such holdings, tiny as they are, are made up of small plots scattered all over the village."[1]

Discussing the distribution of agricultural income, Dr. V. K. R. V. Rao. says, " Out of 22 lakhs of registered holders of land in the Province of Bombay, no less than 10 lakhs had holdings of below 5 acres in size. In the other provinces more than 60 per cent of the cultivators appear to own holdings of less than 5 acres each. For 73 villages surveyed by the C.P. Provincial Banking Enquiry Committee, the figure was 68 per cent ; for the 6 villages surveyed by the Punjab Board of Economic Enquiry, 70 per cent ; for 2 villages in the United Provinces, 70 per cent and for 3 villages in the Madras Presidency more than 70 per cent."[2]

Causes of Subdivision and Fragmentation

The evidence afforded by the figures that we have quoted gives us a picture of an agricultural system which resembles that of China. It is based on a multitude of tiny holdings under conditions where climate, soil, irrigation and double cropping make it possible for a morsel of land to yield a living. It has also to be remembered that the normal unit of rural society, as in China, is the patriarchal family, composed of three or more generations living together, and augmented by other relatives, who though not forming part of the household share the family budget. The number of human beings which each of these farms has to support is larger than in Western countries.

We have been told that it is the increase of population in the country which has been responsible for the subdivision and fragmentation of agricultural holdings. Thus, the Floud Commission tell us, " As population increases the available land per head of the population decreases." We have also been told that it is the subdivision and fragmentation of land that have indirectly contributed to a rapidly increasing population. People who live on the margin of subsistence, cultivating minute strips of land, can have no stake in life. They have nothing much to lose by multiplying. Poverty and multiplication have frequently gone together. This process of subdivision and fragmentation is helped by the operation of the Laws of Succession and Inheritance. At

[1] " India Analysed," Vol. III, 1934, pp. 175-76.

[2] V. K. R. V. Rao, " The National Income of British India," 1941, p. 190.

the time of succession every son insists on getting a piece of every kind of land. This results in a division which assumes the shape of a long ribbon or strip for every cultivator in the village. The attachment to ancestral property which makes the farmer stick on to a piece of the few ancestral acres is not a phenomenon peculiar to the Indian rural population. But when we combine this attachment to the ancestral land with the excessive poverty of the population, we begin to realise the seriousness of the problem.

The Laws of Inheritance and Succession have been in existence for centuries in India. In the early days land was fairly abundant and was not scientifically surveyed and mapped out as it is to-day. There was a good deal of unoccupied land, so that an increase in the number of house holders did not necessarily imply, as it does to-day, a subdivision of holdings already in existence. The death of the head of the family, moreover, did not affect the solidarity of the family property. The family continued its joint existence for years together. Coparcenery was the rule, and division of property was the exception, as can be seen even to-day by the legal presumption that a Hindu family is to be regarded as joint until the contrary is proved. There were also alternative occupations in the village for the sons of a family who might prefer giving up agriculture when property was divided.

These conditions have rapidly changed during the last hundred years. The imports of cheap machine-made goods from England and the Continent have gradually led to the decline, if not disappearance, of the handicrafts and industries which once marked the economic life of the village. A considerable proportion of the village population that was hitherto absorbed in village industries was thrown out of occupation, and was converted into labourers on land, eager to snatch at whatever opportunities the limited cultivated lands of the village offered to them. With the increasing process of ruralisation the demand for land increased, and this could only be met by an accentuation of the process of subdivision. Thus, subdivision and fragmentation of land were not only due to the Laws of Succession and Inheritance, but to the land hunger created by a growing population incapable of being absorbed in non-agricultural occupations. The surplus population dependent on land, which had already been noticed as a matter of grave concern by the Famine Commission of 1880, has enormously increased since then, eating up resources which might have otherwise been available for further production.

There is one more factor that enters into the situation and contributes to the gravity of the problem created by excessive subdivision and

fragmentation. So long as the farming family was providing for its own requirements by cultivating whatever holding was available to it, fertility could differ from holding to holding without affecting the general economic system. But when the costs of production on the holdings have to be adjusted to a competitive price structure determined by international supply and demand, the waste of land resources which accompanies the application of inefficient methods to small and fragmented holdings might well be a matter of the gravest concern.

Finally, the village money-lender also plays a part in aggravating the evil. "In addition to the Hindu law of Inheritance, unequal fertility and assessment, another cause which contributes to this state of affairs is the gradual absorption of large amounts of land into the hands of the village sowkar by means of foreclosure of mortgages or sales etc. The agricultural population in consequence has only a limited area to divide among themselves, so far as the occupation of land is concerned."[1]

The Question of an Economic Holding

The question that inevitably arises when we consider the trend towards increasing subdivision and fragmentation of land is what would be the minimum size of an agricultural holding which can support a family of say five members. No answer can be given to such a question in abstract terms. The size of an agricultural holding in any country depends upon a variety of factors. It will partly depend upon geographical and climatic conditions, partly upon laws and social institutions, partly upon the methods and technique of cultivation. The ideal size of the holding will vary likewise with the nature of the crop, and the objective behind the agricultural production—whether agriculture is carried on primarily for satisfying the food and other demands of the population within the country, or whether cash crops are being raised for an export market.

Thus where grain and wool are in demand, the large holding alone can be regarded as economic. Small farms, on the other hand, are best suited for dairy produce, vegetable and fruit growing or for vine orchards. For a century and half in England before 1875, there was an increase in demand for grain with a rapidly increasing population. The rise in the price of cereals led to farming on a large scale with capital and scientific appliances. But when after 1875 there was a trend towards falling prices in cereals, due to the cultivation of virgin soils and the development of rapid communications as well as of scientific methods, large-sized farms

[1] Report of the Pardi Taluka Economic Enquiry Committee, 1926, p. 16.

ceased to be profitable, and small holdings were found specially adapted to meet the demand for butter, fruits and vegetables.

Thus the question whether a holding is economic or uneconomic cannot be settled in a rigid manner.[1] That unit of holding is ideal from an economic point of view which under given agricultural conditions makes for the maximum production. Now maximum production is determined by a Law of Proportions. Given a large holding, in order that it may yield the maximum return, it will require a definite amount of capital in the form of seeds and mechanised implements and fertilisers, and also a definite amount of labour. If these are not available, large-scale farming may prove unprofitable. If the holding is larger than what the "equipment"—capital and methods—can properly cultivate, economic considerations demand that it should be decreased in size. If the holding is smaller than what the equipment can allow, it must be enlarged. An average holding of 50 to 60 acres in England or a holding of 150 acres in the U.S.A., may not be regarded as a large holding in those countries. But a holding of 50 acres in a country like India, with an agricultural class living from hand to mouth and sunk in debt, with an equipment that may be called the minimum consistent with the possibility of cultivating it, may be definitely characterised as an uneconomic holding because it is too large.

If we turn from these abstract questions to a few representative opinions expressed by experts, we find a wide variety of ranges. Keatinge in Bombay defines an economic holding as one "which allows a man a chance of producing sufficient to support himself and his family in reasonable comfort after paying his necessary expenses. In the Deccan, an ideal economic holding would consist of (say) 40 or 50 acres of fair land in one block with at least one good irrigation well."[2] Dr. Harold Mann observes: "An economic holding is one which will provide an average family at the minimum standard of life considered satisfactory .... the size of such a holding would be 20 acres."[3] Prof. Stanley Jevons

[1] The differences in views with regard to the size of an "economic" holding, which we have noted in the text, are partly due to two different intepretations of the word "economic". If by an economic holding we mean one that yields a maximum return by the use of mechanised methods and agricultural technique, we would have to face the problem of creating greater unemployment, due to the formation of huge farms. This would imply a social revolution. If, on the other hand, by an "economic" holding we mean one that would support an average family of five persons, we need not contemplate mechanised methods and no fundamental change in the technique of production. This latter is better described as a subsistence holding.

[2] Keatinge, "Rural Economy in the Bombay Deccan" pp. 52-53.

[3] "Land and Labour in a Deccan Village" Vol. II, p. 43.

fixed the size of a model holding which would enable the farmer to maintain a fairly good standard of life at about 30 acres. On the other hand, Sir. T. Vijayaraghavacharya regards 4 to 6 acres as "the minimum subsistence family holding," although differences in soil, productivity, water supply, crop rotation and agricultural practice may alter the size of the holding.[1]

Whatever criterion we adopt of the minimum size of the economic holding, taking even one acre of land per capita as indispensable for human nourishment as Sir T. Vijayaraghavacharya suggests, it is obvious that we in India to-day fall far below even this minimum. The crop area for the whole of India per capita works out at 0.78 acres, though in Provinces like Bombay and the Punjab the per capita crop area may be a little more than an acre. This can be easily accounted for when we remember, firstly, the low rate of population growth in these provinces and secondly, the possibilities of alternative occupations. It is obvious that Bombay with an area of 124,000 square miles and a population of 20,000,000 is in a more favourable position than Bengal with an area of 77,000 square miles and a population of 60,000,000. Whilst the population of Bombay increased by 32 per cent between 1881 and 1931, that of Bengal increased by nearly 38 per cent and that of Madras by 51.6 per cent. So also whilst 64 per cent of the population of Bombay Province are dependent on agriculture, in Madras the percentage is 68 and in the U.P. 79.3.

Measures for Consolidation

We have been told that consolidation of holdings is one of the effective methods of meeting the evils of fragmentation. Very often there is a confusion in the minds of those who discuss the problem between the evils arising from the uneconomic character of the holding due to its size as a whole, and the evils due to the fragmented character of the holding. Consolidation is suggested as a remedy for fragmentation ; but even after consolidation has been effected, the size of the holding may still remain too small for adequately supporting an average family.

Measures in the Punjab

In the Punjab, the experiment of consolidating holdings was started with the help of co-operative societies in 1920. 260,000 acres were consolidated in the first ten years out of the whole cultivable area of 34,000,000

[1] Presidential Address at the 2nd Conference of the Indian Society of Agricultural Economics, April 1941, p. 15.

acres. The total area consolidated upto the end of July, 1939, was a million acres. The difficulties experienced in the work of the co-operative societies were sought to be overcome by the Punjab Consolidation of Holdings Act of 1936, which gave power to officers for preparation of schemes and settlement of disputes among right holders. We are told that as the result of consolidated holdings litigation has decreased, rents have risen, outturn of crops has increased, new land has been cultivated, housing conditions have improved and farming has become more intensive. On the other hand, it has been pointed out that there is a dislike to the idea of exchange of plots, the bigger owners have opposed repartition, as also mortgagees who fear alteration. Even in the Punjab there is need for more careful investigation of the problem ; and it has to be kept in mind that the homogeneity of soils and simplicity of land tenure characteristic of the Punjab which favour consolidation are not to be found in other parts of the country.

The Central Provinces

The Central Provinces Government have likewise viewed measures for consolidation with favour. They maintain that it has stimulated cultivators to improve their lands, saved a good deal of time and labour, made the watching of crops cheaper, minimised the chances of theft during harvest, led to the conservation of manure and checked the wastage of fodder by small holders. They say : "Under the existing Hindu and Mohammedan Laws of Inheritance, further subdivision cannot be checked legally. But the good effect of consolidation can be seen in the fact that the old practice of subdividing each and every field into as many small bits as there are shareholders is becoming less common. The shareholders try to take compact blocks and adjust the differences in value by larger or smaller area. There may be fragmentation on account of partitions and transfers by sale or surrender, but it should take at least a century to reduce the present large blocks to their original size of one-tenth or one-twentieth of acre."[1]

Baroda

It is obvious that for meeting the evil of subdivision and fragmentation and providing economic holdings to the cultivators, two kinds of measures are necessary : (1) measures preventing subdivision beyond a particular limit and measures ensuring priority rights which would check fragmentation ; (2) consolidation by legislation or by voluntary co-operation.

[1] Quoted in a Paper read by K. C. Ambegaokar—Proceedings of the 1st Conference of the Indian Society of Agricultural Economics, 1940, p. 34.

In Baroda, a Committee was appointed by the Government in 1917 with a view to stopping the excessive subdivision of agricultural holdings. On the recommendations of the Committee an Act for the consolidation of scattered holdings was passed in 1920. The Act was a permissive one, and could be applied by notification to any village where two-thirds of the khatedars holding at least one-half of the total occupied land of the village desired it. When the Act is applied, the Land Commissioners are to redistribute the holdings so that each khatedar may get in one piece land equal to the amount of his previous holding in small and scattered pieces put together.

As no substantial advantage was taken of the Act, a second committee was appointed in 1922 to advise on the question. As a result of this committee's recommendations, co-operative societies for the consolidation of holdings were organised. Provision was made in the Partition of Immovable Property Act to prevent fragmentation below prescribed limits. Still the purpose of the Act could be defeated by transfers through sale and mortgage. To counteract this, an Act of 1933 gave neighbours and co-parceners a right to purchase adjoining land under prescribed limits, and intending sellers were required to inform neighbours of their intention.

Commenting on these Acts Sir M. B. Nanavati states, "The only best way is for the Government to purchase all the land, plot it out again and sell the fields by auction."

Other Provinces

Apart from the Punjab and the Central Provinces, consolidation has also been undertaken on co-operative lines in the United Provinces since 1926 and in the North West Frontier Provinces since 1930. By 1939, 25,000 acres have been repartitioned in 93 villages, the plots being brought down from 41,000 to 4,000 in the United Provinces, while in the N.W.F. Province 26,000 acres have been repartitioned, the number of plots being reduced from 38,000 to 7,500. The progress has been very slow, and according to Strickland, "The time for reliance on co-operative consolidation societies is now passed."[1] In Bengal, no practical scheme for consolidation has been evolved, due to the reluctance of landlords and tenants to exchange their present plots. The Bengal Board of Economic Enquiry which made an enquiry in this connection considered that consolidation of holdings, though desirable, was not practicable; that its benefits would not be commensurate with the time and energy involved;

[1] Strickland, "Consolidation of Agricultural Holdings," 1939, p. 13.

and that unless further fragmentation could be checked by altering the Laws of Inheritance amongst Hindus and Moslems, it was no good considering the question further. So also the Floud Commission observe: "We are agreed that although consolidation is desirable in Bengal, there would be great difficulties in carrying it out, and it would not benefit cultivators to the same extent as in the Punjab." The Commission point out that two causes favoured the consolidation legislation in the Punjab, (a) that the crops depend entirely on irrigation, so that the peasant whose plots are consolidated is in a position to sink a well, and (b) that there is very little subinfeudation in the Punjab.

In Sind subdivision is not regarded as excessive. In Madras the problem has not been considered sufficiently serious, and conditions are such as to make consolidation difficult. The Madras Provincial Economic Council reported in 1928—and its conclusions were endorsed by the Madras Government—"Though fragmented holdings involved some waste of time and labour, they have not, as in the Punjab, led to land going out of cultivation, or impeding the development of irrigation by wells, because the conditions prevailing in Madras and the Punjab are different. Well irrigation in Madras is confined to small areas under valuable crops, and small holdings are not a handicap. . . . Paddy cultivation is best carried on in small plots to secure an even level over the whole land and one man's land is split up into smaller plots for convenience of cultivation. . . . The disadvantages of fragmentation are discounted to a great extent by the agricultural and other conditions prevailing in each tract; and in some parts it cannot be said that it is detrimental to the best interests of the cultivators. . . . The Punjab has achieved striking results in consolidation by persuasion. With the disadvantages of fragmentation less obvious and the problem less acute, the same degree of co-operation cannot be expected in Madras. Nor is the solution so easy as in the Punjab, where there is apparently less variety in the nature and the quality of land from block to block than in most of this Presidency."[1]

It thus appears that there has been no general agreement regarding the desirability and practicability of measures for consolidation. In some of the places where fragmentation exists it is urged that it is not necessarily an evil. Even where the evil is admitted, the practicability of stopping it by consolidation is questioned. Consolidation is regarded as a temporary, palliative, unless it is effected from generation to generation, or legislative restrictions are imposed on subdivision and partition of land.

[1] Quoted by K. G. Ambegaonkar, op. cit. pp. 27-8.

Concluding Observations

What then, we ask again, are the measures that will enable the country to escape from the consequences of fragmentation and subdivision ? We have had proposals for (1) consolidation of holdings, (2) defining an economic holding that could be made immune by legislation from further subdivision, and (3) changes in the Laws of Succession and Inheritance.

(a) In considering these proposals, it must, in the first place, be remembered that they are interconnected and interdependent, and that any one of them taken by itself will be ineffective unless it is supported by the adoption of the others. The idea of equal inheritance by birth is deeply engrained in the minds of the people ; and it might take a long time before a radical change of this kind can meet with co-operation on the part of the masses.

(b) If an economic holding is to serve the purposes of an improved agriculture, the holder must not only be freed from the burden of his old debts but be provided with adequate finance for his seeds and cattle and implements.

(c) It must also be remembered that where cultivation depends upon the uncertainties of rainfall, the distribution of holdings in different soils may be an advantage. In many parts of India two or more crops are grown in dispersed fields, so that while a deficiency in rainfall may destroy one crop, there may be better returns from other fields.

(d) Consolidation can only be effective if it is associated with scientific reclamation of land which has been classed at present as "cultivable waste other than fallow." The terrible wastage of our land resources has been estimated by R. K. Das at 70 per cent of our total resources in land.[1]

If the pressure of war can make it feasible to bring under cultivation five million acres of land, it would be equally feasible from a long run point of view to plan a systematic utilisation of our culturable waste, which is to-day estimated at 98 million acres, in times of peace.

(e) But not even all these measures would ensure the success of consolidation and of change in the Laws of Inheritance, unless subsidiary occupations in the villages, the introduction or revival of cottage industries, and the organisation of large-scale production absorb a substantial part of the semi-idle inefficient labour which to-day contributes to the

[1] "Industrial Efficiency of India," 1930, p. 13.

inefficiency of our agriculture. With increased size of the holdings there must also be provided greater facilities in the shape of credit for the movement and marketing of crops.

(f) The success of any measures with regard to consolidation will depend upon their place in a comprehensive economic and social programme. Any isolated measure, any tinkering with the problem, any patch work such as is characteristic of a laissez-faire tradition can only aggravate instead of solving the difficulties that confront our agriculture.

(g) Finally, we must not lose sight of the complexity of the problem. The fragmented and uneconomic holdings have brought about progressive agricultural deterioration and aggravated the poverty of the masses. Increasing indebtedness has accelerated the process of expropriation of land by non-agriculturists and increased the agricultural proletariat burdening the land. Preventive measures in the form of legislation, such as we have discussed, will not solve the problem. It has been urged that co-operative farming on a voluntary basis may succeed where legislation of a preventive character may fail. It might be safely stated, however, that even compulsory co-operative farming, within the limits of the present socio-economic structure, with all the aid that it can receive from the State in matters of seeds, implements and credit, cannot cope successfully with the problem of our deficit agricultural economy, so long as our agriculture continues to be dependent on competitive prices.

If, instead of resorting to measures of a tinkering and halting character, we consider the possibility of a redistribution of land with consolidated holdings and co-operative large-scale production, such measures may have revolutionary implications, involving a prolonged struggle with vested interests, ranging from the money-lenders to the feudatory and absentee landlords, not to mention the sentimental attachment to the land of existing owners and to the laws of inheritance and succession. We are faced with a dilemma which it is difficult, if not impossible, to resolve. The choice lies between drastic and radical measures planned with a view to bring about reconstruction of our social and economic organisation, or a continuance of the present planless drift, with sporadic attempts at halting reforms which may end in a grave agricultural crisis followed by a violent revolution. As J. S. Mill has observed, "When the object is to raise the permanent condition of people, small means do not merely produce small effects ; they produce no effects at all."

CHAPTER IX

RURAL DEBT AND RURAL FINANCE

Agricultural Indebetedness

The question of rural indebtedness has always been recognised as an important factor that accounts for the low agricultural productivity of land in India. The Central Banking Enquiry Committee estimated the total volume of agricultural indebtedness in 1931 at roughly 900 crores of rupees. This estimate was arrived at on the basis of data supplied by the different Provincial Banking Enquiry Committees. Sir E. Maclagan observed in 1911 that "it is acknowledged that the indebtedness has risen considerably during our rule, and more specially during the last half century. The reports received from time to time and the evidence of annual sale and mortgage data show clearly that there has been a very *considerable increase of debt during last half a century.*"

Volume of Indebtedness

That the volume of agricultural indebtedness in India is steadily growing was pointed out long ago on abstract grounds based upon the general characteristics of this indebtedness. The Provincial Banking Enquiry Committees confirmed this belief on statistical data. The Punjab Banking Enquiry Committee observed that the total agricultural debt in the Punjab increased from 90 crores in 1921 to 135 crores in 1929. The agricultural depression that started in 1929 has subsequently increased the rural debt of India by 50 to 100 per cent. The resurvey of the Faridpur District in Bengal in 1933-34 by the Bengal Board of Economic Enquiry after a quarter of a century (the first was carried out by J. C. Jack in 1906) showed that 16.9 per cent of the families were free from debt, whereas 55 per cent were free at the time of the first enquiry. The figures given by Darling reveal the same story of the growth of indebtedness. If these figures can be relied on, they show that four-fifths of the peasantry are in the grip of money-lenders. Between 1921-29, the rural debt of the Punjab increased by 50 crores. The debt per cultivated acre in 1929 amounted to Rs. 45 and per head of dependants on agriculture to Rs. 104. The catastrophic fall in prices in 1929 has nearly doubled the real burden of debt. The report of the Agricultural Credit Department of the Reserve Bank of India estimates the present indebtedness in terms of commodities at Rs. 1,800 crores in 1937.

As early as 1875, a commission appointed to enquire into the causes of the agrarian riots in the Deccan examined the question of the causes responsible for agricultural indebtedness. Later on, Nicholson in Madras enquired into the same problem, and arrived at practically the same conclusions. Still later, the Provincial Banking Enquiry Committees undertook a detailed investigation into the causes of agricultural indebtedness, and their conclusions were in agreement with the conclusions of Nicholson.

Dr. Radhakamal Mukerjee supplies the following statistics showing the state of indebtedness in different parts of India as judged by intensive enquiries in different villages :—[1]

Year	Locality	Free of Debt
1888	Agra District Tenantry	22 per cent
1894	Nagpur (18,000 tenants)	40 „ „
1901	Baroda State	Nearly 40% of all landowners
1907	Faridpur (Bengal)	55 per cent
1918	Chhindwara (C.P.)	28 „ „ of all resident tenants
1919	Mysore State (24,350 co-operators)	37 per cent
1923	Punjab	17 „ „
1925	Murshidabad (Bengal)	12½ „ „
1926	Jessore (Bengal)	20 „ „

The amount of average indebtedness in different parts of India is indicated in the following table :

Year	Locality	Amount of Debt
1896	9 villages in Sialkot, Gujranwalla & Shahpur (Thoburn's enquiry)	Rs. 562 per indebted owner
1918	43,733 proprietors (a) (Darling's enquiry) (b)	Rs. 463 per head Rs. 385 per owner
1875	12 villages in Ahmednagar	Rs. 371 „ occupant
1907	Faridpur District	Rs. 121 „ indebted cultivator
1913	Baroda State	Rs. 450 „ indebted holding
1917	Pimpla Saudagar Village (Deccan)	Rs. 225 „ indebted family
1918	Ajmer, Merwara (10,779 co-operators)	Rs. 379 „ co-operator
	Chhindwara	Rs. 112 for ordinary tenants
1919	Bengal (4,000 co-operators)	Rs. 120 per co-operator
1919	Mysore (24,350 co-operators)	Rs. 273 „ indebted co-operator

[1] "Land Problems of India," 1933, pp. 274-5.

We also provide below a table showing estimates of agricultural debt made in different years for different provinces :—

Various Estimates of Rural Indebtedness

Estimated by	Year of Enquiry	Amount of indebtedness in rupees	General Remarks
The Deccan Riots Commission	1875	371 per occupant	Based on analysis of 12 villages in the Ahmednagar district (Bombay); one-third occupants of Government land in debt; debt averaged 18 times the assessment.
The Famine Commission	1880	—	One-third of landholding class in deep debt; another one-third in debt; but with power to redeem debt.
Sir Frederick Nicholson	1895	45 crores	Of Madras only.
The Famine Commission	1901	—	One-fourth lost their land in Bombay. Less than one-fifth free from debt.
Sir Edward Maclagan	1911	300 crores	For British India on the basis of Sir Nicholson's estimate for Madras.
M. L. Darling	1925	600 crores	Based on the Punjab figures of 90 crores; 19 times the assessment, but taking 17 as the multiplier.
The Central Banking Enquiry Committee Report	1929	900 crores	Based on Provincial Banking Enquiry Committee Reports.
P. J. Thomas[1]	1939	1,200 crores	———

[1] "If the total agricultural debt of British India was about Rs. 900 crores in 1928-9, it must have increased to about 1200 crores by 1933, and the real burden must be tantamount to Rs. 2200 crores assuming fall in price by 50% between 1929 and 1933." (Rural Indebtedness by P. J. Thomas in "Economic Problems of Modern India," Vol. I, 1939, p. 176).

Estimated by	Year of Enquiry	Amount of indebtedness in rupees	General Remarks
Agricultural Credit Dept. Report	1937	1,800 crores	———
Bombay (including Sind)[1]	1929	81 crores	15 times the assessment Average debt per land holding family Rs 570 and per landless family 189, percentage of families free from debt, 21 in N Gujarat, 23 in S Gujarat, 29 in Konkan and 13 in Sind
Madras	1929	150 crores	19 times the assessment
Bengal	„	100 crores	Average debt per family Rs. 160
United Provinces	„	124 crores	27 times the assessment
Punjab	„	135 crores	in 1929 as against 19 times in 1921, growth of 50 per cent in 8 years Average debt per agriculturist Rs 104 in 1929 as against 76 in 1921
Bihar and Orissa	„	155 crores	Rs 129 crores for ordinary cultivators, Rs 24 crores for landlords and Rs. 2 crores for other householders.
C. P. and Berar	„	36½ crores	Rs. 227 per family
Assam	„	22 crores	21 times the assessment, only 15 per cent of families are free from debt

Causes

The table of estimates, which we have provided, can at the best give us a rough idea of the agricultural indebtedness in our country. A characteristic feature of this agricultural debt is its hereditary nature. The debt is handed down from generation to generation. The son has often to borrow in order to pay the interest charges on the amount borrowed by his father. Under the joint family organisation, the debt incurred by the head of the family is not a personal debt which becomes extinct on the death of the borrower, but is attached as it were to the property, and is passed on from father to son.

In the second place, the interest charges which the borrower has to

[1] All the estimates that follow are estimates made by the Provincial Banking Enquiry Committees.

pay have necessarily to be high. The only available source of credit to the cultivator sunk in poverty is the village marwari or the sahukar who knows the difficulties of the borrower, the paucity of the chances of repayment, and the difficulties in the way of his enforcing such repayment. Although the village money-lender has in the past performed a valuable economic function in the life of the village, his activities have now become anti-social. With the abeyance of the old village custom of Damdupat, which prohibited him from receiving more than double the sum originally lent, he often charges exorbitant rates of interest, manipulates accounts, and ultimately deprives the agriculturist of his land.

Thirdly, in a country where agriculture is a gamble in the rains, and where one out of every four or five years may be a year of scarcity if not of famine conditions, the cultivator who barely makes a subsistence when the harvest is plenty, is inevitably compelled to borrow in a year of scarcity. Frequently his seeds may rot, his cattle may die, he may need renewal of agricultural implements or repairs to his village hut ; all these are occasions for resorting to the village money-lender, the only person who can help him in his hour of need. There are other and less frequent occasions when the cultivator has to borrow for the performance of ceremonies like marriage or death, or the arrival of a new child, occasions when he is said to be unnecessarily extravagant, spending thoughtlessly and lavishly to keep up social prestige in the eyes of his fellow villagers. In these materialistic times, the East has scarcely a chance of being understood on occasions like these, when the grateful human heart struggles to express its sense of gratitude to the Gods without counting the cost.

Fourthly, in considering the causes of indebtedness the heavy burden of the land assessment, which is a primary charge on the crop and on the land, has to be taken into account. The assessment demands can only be met by borrowing, not only when the rains are timely and the crops abundant, but even when there is a failure of the crops—an eventuality of regular occurrence once every few years. An agricultural population which lives on subsistence level cannot help regularly borrowing every year on the occasions of paying the first instalment of the agricultural assessment, which is usually collected at the time when the harvest is not yet gathered and marketed. As a matter of fact, long before the harvest is marketed the crop is pledged to the money-lender, who may thus deprive the cultivator of the prospective benefits due to marketing under more favourable conditions.

Fifthly, whether in the Zamindari tracts or in the Ryotwari areas, wherever sub-letting is practised, the presence of a large and increasing

body of middlemen having interest in land adds to the burden of the small farmer affecting his volume of indebtedness. We must add to these considerations one more, namely, the increasing land hunger which makes large numbers of landless people borrow money for the sake of purchasing an uneconomic holding—the only alternative to starvation.

The Banking Enquiry Committee point out that it is very rarely that the cultivator borrows from the village money-lender for the purpose of improving the land. The Committee noticed that this indebtedness of the agricultural class leads to the transfer of land to the money-lenders and contributes to the creation of an ever increasing landless proletariat.

When we look at the problem of agricultural indebtedness as a whole, it is not so much the volume of the debt that engages our attention as the circumstances under which it has grown during the last few decades. The village marwari and the mahajan have been centuries old institutions. They helped the economic life of the cultivators in the long past without creating the serious problem of the present day. To ascribe the rural indebtedness to factors like improvidence and love of litigation and to cavil at the poor agriculturist on the ground that he is thriftless implies confusion in understanding the problem of indebtedness. If the agricultural debt is a symptom of a serious economic malady to-day, it is because, in the first place, the cultivating classes are shouldering the debt on fragmented farms which even experts cannot work at a profit, and which cannot yield even mere subsistence. In the second place, the rapidity with which the debt is growing can be accounted for in the context of the whole agricultural economy which, whilst it remains an economy of the subsistence type, has been tied to the apron-strings of the world market and world prices. But whilst the cultivator has thus been drawn into the whirlpool of world prices, he has been neither supplied with the organisations nor the credit facilities which are within the reach of the farming classes, in countries like the U.S.A., Canada, Denmark and Germany. The ryot used for centuries to a subsistence economy is surrounded by powerful organisations of buyers, who make it difficult for him to obtain a fair price for his produce. What is worse, he cannot hold on to his crop even in times of plenty, mainly due to lack of proper credit facilities.

Analysis of Objects for which debt is incurred

Madras Province may be taken as a typical illustration of the rapid growth of agricultural debt. Nicholson estimated the total debt of the province in 1895 at Rs. 45 crores. The Banking Enquiry Committee in 1930 estimated the total standing debt at about Rs. 150 crores, and the

debt from year to year at about Rs. 70 crores. Mr. Sathianathan, an I.C.S. officer, in a report in 1934 on the question of rural indebtedness estimated the total debt at Rs. 200 crores. Mr. Sathianathan's detailed surveys based on an enquiry into 141 selected villages, disclosed that the purposes for which the debt was incurred might be classified as below :—[1]

Purpose	Percentage
Payment of prior debts	25.1
Purchase of land	13.8
Trade	12.9
Marriage and other ceremonies	10.5
Agricultural expenses	10.0
Building of houses	5.6
Relief of distress	6.1
Improvement of land	4.4
Payment of land tax	3.3
Education of children	1.4
Other purposes	6.9
Total	100.0

Similarly, the debts of 52 families of Karimpur Village, Bogra District, for 1928-29 show the following causes of indebtedness :—[2]

Purpose	Percentage
For payment of old debts	14.3
Purchase of cattle and capital and permanent improvements	40.0
For land revenue and land	21.1
For cultivation	16.1
For social and religious purposes	5.5
For litigation	0.6
For other purposes	2.4
Total	100.0

A survey of some villages in the Cuddalore Taluka conducted by Dr. Narayanswami Naidu and Mr. P. Vaidyanathan gives us the purposes for which the debt (50 families) was incurred as under :—

Purpose of Borrowing	Percentage
Ancestral debts	53.0
Agricultural expenses	13.7
Trade	5.2
Domestic expenses	5.3
Marriage and social functions	7.9
Buying land	1.6
Other purposes including payment of land revenue which forms a big proportion	13.3
Total	100.0

[1] Quoted in the Report of the Committee on Co-operation in Madras, p. 73.
[2] Percentages are calculated from the figures given in the Bengal Provincial Committee Report, p. 72.

The authors of the survey observe : " To certain extent the incidence of land revenue influences indebtedness. This is true especially during the depression when there is a fall in prices and the value of money has increased. The half net theory of the Government according to one writer has become the ' all net theory ' . . . It is usual to exaggerate the expenses on marriages. . . . The percentage of this kind of debt compared with others is very low."[1]

The tables that we have given are useful as showing that love of litigation and social and religious purposes are not the most important amongst the objects for which the debt is incurred by the rural classes. The charges of improvidence and extravagance against the Indian peasantry are not borne out by these enquiries. The first of these tables shows only 11 per cent as debt incurred for marriage and other ceremonies while the last one only 8 per cent. The litigation figures given in the second table shows only 0.6 per cent as debt incurred for such purpose. These figures bear out the remarks of the Deccan Riots Commission in 1875 ; " Undue importance has been given to the expenditure on marriage and other festivals. . . . The expenditure forms an item of some importance in the debit side of the ryot's account, but it rarely appears as the nucleus of his indebtedness."

Measures for Relief of Debtors : (a) Madras

Coming to a review of the recent measures adopted in the various provinces for the relief of indebtedness, the following measures were undertaken by the Madras Government after 1934. These measures may be classified under three heads :

(1) Measures of relief by reduction of capital. The Madras Debtors Protection Act of 1935 was intended for the protection of borrowers below Rs. 500. It prescribed maximum rates of interest, and required creditors to maintain proper accounts. The Agriculturists Loan Act, 1884, was amended in 1935, and the Madras Government advanced in three years about Rs. 25 lakhs for loans for redeeming prior debts.

(2) The Madras Debt Conciliation Act, 1936, legislated for voluntary settlement of debts by Debt Conciliation Boards. Very little, however, was achieved by this Act.

(3) The Madras Agriculturists Relief Act, 1938, provided for a compulsory scaling down of rural debts through Civil Courts, by fixing the maximum rates of interest and writing off rent arrears. Between

[1] Indian Journal of Economics, Vol. XIX, 1938-39, pp. 529-30.

March, 1938, and July, 1940, Rs. 2 crores and 5 lakhs were scaled down and 48 per cent of the original debt was remitted.

The Madras Committee on Co-operation, 1939-40, recommended a simple Rural Insolvency Act.[1] It also recommended statutory control of the professional money-lender, providing for compulsory licensing of money-lenders, maintenance of accounts, fixation of a maximum rate of interest and prohibition of compound rate of interest.

The Madras Committee summing up the situation with regard to indebtedness observe : "We are conscious that many of the measures already taken by the Government or recommended by us involve departures from the principles of freedom of contract and of the sanctity of formal undertakings. But we must place the prosperity of agriculture—which means the general prosperity of the country—above all other considerations. 'Agriculture as a producer of wealth, as an employer of labour, as a fine mode of life, as a provider of homes for men, as an industry which develops some of the finest qualities of those engaged in it deserves substantial and reasoned support' from the Government, Legislature and the public."[2]

This statement may be welcomed as a belated and reluctant recognition of the need for corporate action. But neither the Royal Commission on Agriculture nor the Madras Committee on Co-operation can look beyond a future in which the money-lender will continue to ply his trade, and village co-operative societies will meet the reasonable demands for productive credit in the areas covered by their activities.

(b) Punjab

The history of legislation on money lending in the Punjab also warns us against too optimistic a view of such legislation. The Redemption of Mortgages Act, 1913, was followed by the Usurious Loans Act, 1918, under which courts were empowered to reopen a transaction provided it was substantially unfair between the parties and the rate of interest charged was excessive. The Punjab Regulation of Accounts Act, 1930, secured an improved system of keeping accounts and prescribed the methods in which accounts were to be maintained by money-lenders. The Punjab Relief of Indebtedness Act, 1934, provides for the constitution of

[1] Cf. Agricultural Commission Report: "Just as creditors have the right to insist that all the debtors' assets should be impounded and applied towards the payment of the debts, so also the debtor who has given up all his assets should have the clear right to be allowed to earn his living if he can, and to be free to make a new start in life," p. 441.

[2] Report on Co-operation, 1940, p. 96.

Debt Conciliation Boards. The Punjab Debtors Protection Act, 1936, afforded immunity to certain kinds of property from being proceeded against in execution proceedings. The Punjab Alienation of Land Act as amended upto 1939 prevented the passing of the land from the hands of agricultural classes to the hands of the non-agricultural classes. The general effects of this legislation have not been pronouncedly very favourable. The number of money-lenders in the villages has decreased ; their power has increased. The value of land as security has decreased. Money-lenders have discontinued lending except to old clients. There has been a general shrinking of rural credit. One feels tempted to observe that legislation by itself can never solve the problem of indebtedness, and that debts are bound to grow with a deficit economy in the absence of a comprehensive planning for agricultural development.

Recent Provincial Legislation

On a general review of the legislative measures adopted in the provinces, it would appear that there have been four directions in which efforts have been made to handle the problem of indebtedness ; (a) control of land alienation ; (b) attempts to liquidate the old debt ; (c) attempts to control the existing credit machinery ; and (d) substitution of facilities for credit in the shape of co-operative societies.

(a) The Deccan Agriculturists Relief Act of 1879 was one of the earliest measures for dealing with the problem, and sought to prevent the alienation of land from the agricultural to the non-agricultural classes. A similar provision was embodied in the Punjab Alienation Act of 1900, subsequently amended in 1907 and 1938. The Bihar Money-lenders Act of 1938 exempted a minimum holding from sale in execution of decrees.

(b) The Insolvency Act of 1920 provided for the protection of the debtors against arrest and imprisonment in cases where the debt amounted to Rs. 500 and over. The Punjab Relief of Indebtedness Act of 1934 and the Central Provinces Insolvency Amendment Act of 1935 reduced the amount from Rs. 500 to Rs. 250. The Bengal Agricultural Debtors Act of 1938 provides for a Board of Conciliation which may declare a debtor insolvent if his assets are not sufficient to repay the debt within twenty years. The certifying officer under the Act may also declare a debtor insolvent if he thinks that the overdue instalments cannot be recovered.

Debt Conciliation and Arbitration were provided for by the C. P. Debt Conciliation Act of 1933, and by similar Acts in the Punjab, Bengal,

Madras, Assam and Bombay. These Acts provide for the settlement of outstanding debts through Conciliation Boards and the Registration of Agreements so as to give them the effectiveness of decrees. Certificates could be issued to the debtors making a fair offer to the extent of 40 per cent of the debt, and prohibiting interest in excess of the principal amount.

(c) After the agricultural depression that started in 1929, most of the Provincial Governments have enacted Acts, limiting the rate of interest charged by money-lenders, recording terms agreed upon between the creditor and the debtor, providing for the registration of money-lenders and for the furnishing of accounts to the debtor. The following table shows legislative restriction of rates of interest in some of the Provinces :—

Province	Name of the Act	Rate of interest per annum	
		Secured Loan	Unsecured Loan
Bengal	Money-lenders Act, 1933	15 per cent	15 per cent
Punjab	Relief of Indebtedness Act, 1934	12 „	18¾ „
Madras	Debtors Protection Act, 1934	9 „	15 „
U. P.	Usurious Loans Act, 1934	12 „	24 „
C. P. & Berar	Usurious Loans Act, 1934	12 „	18 „
Assam	Money-lenders Act, 1934	12½ „	18¾ „
Assam	Money-lenders Act, 1937	9½ „	12½ „
Bihar	„ „ 1938	9 „	12 „
Bombay	„ „ 1938	9 „	12 „
Bengal	„ „ 1938 (cash loans)	9 „	25 „
	(kind loans)	15 „	25 „

(d) As for the substitution of cheaper credit agencies in the place of the village money-lender, we shall consider the question in a separate section.

Review of the Working of Debt Legislation

(a) The brief references that we have made to the legislation undertaken by the Provincial Governments indicate, in the first place, that these Governments have endeavoured to scale down the debts by setting up Debt Conciliation Boards on a voluntary basis, and in recent years have legislated for a compulsory cutting down of principal or interest. The Debt Conciliation Boards have achieved substantial results in some provinces. In the Central Provinces upto the end of 1938 debts amounting to 9.58 crores have been settled for 4.79 crores. In Bengal, in the

two years between 1937-39, it was estimated that debts amounting to Rs. 5 crores were scaled down. Similarly in Madras, a total amount of Rs. 5 crores was scaled down to 2.65 crores by courts of law during 28 months ending June, 1940. It has been pointed out by way of criticism that the high limits on debts which could be conciliated (Rs. 50,000 under the C.P. Act and Rs. 15,000 under the Bombay Act) confers benefit on a type of debtors who ought not to get any relief. It has also been suggested that when a Debt Conciliation Board has to deal with a debtor whose assets are so small that he cannot repay even the scaled down amount in 25 instalments, he should be given the benefit of the Rural Insolvency Act.

In the second place, the absence of facilities for repayment of the decretal amounts in cash hampers the successful working of the Debt Conciliation Boards. Wherever, therefore, we are told there are Debt Conciliation Boards, it is desirable to establish Land Mortgage Banks which can take over the liabilities of the agricultural debtors.

Thirdly, the C.P. Land Revenue Report, 1937, pointed out that under the Debt Conciliation machinery the debtor finds it difficult to secure fresh credit until the last of his instalments is paid. It is necessary, therefore, that the Debt Conciliation Board take into account the repaying capacity of the debtor after he has provided for the maintenance of his family, rents and taxes, his dues for the repayment of short term funds and for the next year's cultivation needs.

(b) Provincial Governments have also sought to regulate existing credit agencies by Money-lenders Acts. Most of these Acts provide for compulsory registration and licensing of money-lenders, maintenance of accounts and furnishing of receipts. It is desirable to have uniform legislation in this connection for all the provinces. Registered money-lenders could be linked up with the Reserve Bank of India and granted rediscount facilities on the same terms as banks. The enforcement of maximum rates of interest is always attended with difficulties. It has been said that the main purpose of such legislation is educative rather than preventive. Wherever maximum rates have been fixed, creditors do not claim higher interest rates than those fixed when they resort to a Court of Law for the recovery of dues.

(c) The third task to which the Provincial Governments addressed themselves was the enactment of safeguards for protecting the person and property of the agricultural debtor. Some provinces like Bihar, Bombay,

and Bengal provide that a minimum portion of the land and dwelling house of the debtor should be exempt from attachment or sale. In the C.P., Bombay and Bengal, molestation of the debtor by the creditor for the recovery of dues is made a criminal offence. The Punjab Restitution of Mortgaged Lands Act, 1938 provides that a mortgagor should be entitled to seek restoration of his mortgaged land through a court where land has been in the possession of the mortgagee for a length of time which enables the latter to secure the repayment of his principal over and over again.

It has to be remembered, however, that even comprehensive debt legislation such as the Provincial Governments have undertaken during the last ten years, cannot solve our agricultural problem unless it is supplemented by measures which can effect far reaching improvements in agricultural production.[1]

The debt of the cultivating classes is but the symptom of a deeply rooted disease. The legislation that we have briefly reviewed may be regarded as of the nature of ambulance work, stopping the bleeding and the source of further infiltration of the disease, by applying antiseptics and bandaging whilst leaving untouched the roots of the disease. Legislation for scaling down the debt or restricting the activities of the money-lenders will not cure the disease ; nor will the fixation of a maximum rate of interest, or a system of registration and compulsory keeping of accounts touch the roots ; an effective co-operative movement reaching every village in its activities, and backed by such financial resources as the total national assets of the country can provide, may be capable of solving the immediate problem. But, as we shall see, no such hopes can be reasonably entertained with a co-operative movement of the kind that we actually have with us to-day.

It has also to be remembered that, with the growth of transferable rights in land, it is not the farmer but the money-lender who takes away the benefits of irrigation or the cultivation of commercial crops. Where land passes into the hands of the money-lender who has no capacity for farming, the cultivator becomes a tenant-at-will on his own holding, leasing it from the money-lender at a rate which leaves him no incentive to improve the crop and with no credit on which he can borrow. A country like ours with an enormous agricultural population runs a serious risk of aggravating its poverty under such conditions, with neither the will nor the ability to intensify production on the part of the rural classes. Not until the ryots are enabled to start on a clean slate by measures like

[1] For this section, we are indebted to a valuable publication by Mr. N. G. Abhyankar on "Provincial Debt Legislation," (New Delhi), 1940.

the wholesale cancellation of existing debts (a *sine qua non* of all other measures) and get security with regard to their agricultural operations by the provision of regular credit facilities, by consolidation of holdings, by insurance of cattle against famine and disease, by the establishment of subsidiary industries, in short, by a many-sided and simultaneous attack on all the factors connected with their poverty, can there be a reasonable hope of better and more prosperous conditions for Indian agriculture.

Finally, the problem of agricultural indebtedness is intimately linked up with the larger question of economic development. Poverty, ignorance, absence of industrialisation, a static social organisation, deep rooted religious traditions, the uncertainties and insecurity resulting from fluctuations in world prices, all these are elements in a situation in which indebtedness and low agricultural productivity also enter. No solution of any one of these problems is possible, apart from a many-sided and comprehensive reconstruction of the corporate life of the country which will include all the elements.

Government Loans and Advances

With a cultivating class sunk in poverty the provision for borrowing facilities necessarily plays an important part. India has been called a land where capital is supplied "in small sums by small capitalists to men of small commercial intelligence." There has been excessively wide borrowing, on the one hand, and excessively dear money on the other—the Indian agriculturist suffers equally from both those. The Government have endeavoured to make available to the rural classes other sources of credit besides the village sowkar or marwari. They have lent money themselves, and they have organised the formation of Co-operative Credit Societies. Government loans known as takavi are regulated by the Land Improvement Loans Act of 1883 and the Agriculturists' Loans Act of 1884. The former Act authorises the grant of loans by local officers for making any improvement, improvement being defined as any act that adds to the letting value of the land. Wells take the first place among such works. Loans are repayable by instalments, and can be recovered as arrears of land revenue. The Agriculturists' Loans Act provides for loans for other purposes like relief of distress and purchase of seeds and cattle. The rate of interest is 6¼ per cent or less. But they entail formalities of all kinds and the repayment is enforced with great rigidity. It is also stated that the zeal of Government Officers in raising land revenue on account of general rise in prices and construction of new roads and rail-

efforts with the help of takavi advances. This has made the ryots reluctant to resort to takavi, with all the proverbial delays of official red tape and the unnecessary enquiries by minor officials. The result has been a failure on the part of the ryots to take advantage of such limited facilities for credit as the Act affords.

That the Act of 1884 should be confined in its operation to occasions of distress and that the system of Government loans is inimical to the growth of a healthy spirit of self-help are principles the merits of whose rediscovery were the privilege of the last Agricultural Commission. In a country where occasions of distress are the rule rather than the exception, and where more than anywhere else the poverty and helplessness of the agricultural population justify the abandonment of laissez-faire principles, it was left to an Agricultural Commission as late as 1928 to declare and re-endorse the lingering creed of the 19th century.

History of the Co-operative Movement

The Co-operative Movement in India has been a growth of the last forty years and is largely dependent in its origins as well as development on Government. The movement is not confined to the agricultural classes, but it was with a view to their benefit that it was inaugurated and the great bulk of societies are still rural. Even before the year 1900 a striking development of the co-operative principle had taken place in Madras. Nidhis described as mutual loan funds had been started, with over 36,000 members with a capital of two and a half crores. Their clients were, however, the educated class rather than the men of the agricultural population. In 1901, the Government of India appointed a committee to consider the whole question in the light of experience gained in some of the provinces. The report of this committee indicated that no real advance was possible without legislation. The Co-operative Societies Act of 1904 laid down broad principles and empowered local Governments to appoint provincial registrars. The object of the Act was "to encourage thrift, self-help, and co-operation among agriculturists, artisans and persons of limited means." Societies were classed as "rural" or "urban"; four-fifths of the members must be agriculturists in the first case and non-agriculturists in the second. Loans were to be made only to members or to a rural society. Provision was made for compulsory inspection and audit by the Registrar.

The rural societies were required to accept the principle of unlimited liability. Loans could be given to members on personal or real security. Profits were to be credited to a reserve fund or applied to the reduction

expected to start model societies and do propaganda work. The following table gives us an idea of the growth of societies upto 1911-12 :—

Year	Number of Societies	Number of members	Amount of working capital in rupees
1906-07 ..	843	90,844	23,71,683
1909-10 .	3,428	234,397	1,24,68,392
1911-12	8,177	403,318	3,35,74,162

The framers of the Act of 1901 were evidently confused in their thinking and mixed up two distinct objectives. On the one hand, it was thought that the movement which was inaugurated by the Act would meet the problem of agricultural indebtedness, remove the existing burden of the debt and prevent further indebtedness. In the explanatory memorandum appended to the original bill, Sir Denzil Ibbetson observed that enormous advantage would accrue to the cultivators if "they could be induced to utilise their combined savings under a system of co-operative credit, and so be freed even partially from the necessity of recourse to the professional money-lender." On the other hand, it was also thought that the movement would mobilise the scattered savings of the cultivators, would promote thrift, self-help, mutual trust and confidence, and would enable the cultivator to borrow on easy terms for his agricultural requirements from the combined resources of his own class.

The Act of 1904 made no provision for societies for purposes other than the supply of credit. It was based on the model of the Raiffeisen and Schulze-Delitsch banks of Germany. But long before 1904 the German co-operative movement had outgrown its original conception and had developed into a co-ordinated system of rural finance. The establishment of primary credit societies in 1904 on the basis of the original Raiffeisen model might well raise doubts about the clarity of vision of the authors of the Act of 1904. Progress was to be achieved by a process of trial and error. Even the Agricultural Commission observed that it was a case of the "leaders of the blind being themselves among the afflicted."[1]

The co-operative movement was not the outcome of any popular demand. There was no public opinion to criticise or guide it. It was an attempt by the State to teach the people the advantages of self-help and thrift. A few years of the working of the Act were sufficient to show that the working capital of the societies then in existence was less than the rural indebtedness of a single taluka in many parts of the country. It was necessary, therefore, to replace the Act of 1904 by another Act which would provide not only for the formation of co-operative banks,

[1] Report, p. 444.

regional as well as provincial, but also for the formation of societies of various types dealing with purchase and sale apart from credit. This was achieved by the act of 1912 which removed the limitations of the earlier Act. In spite of this, however, and the creation of scope for non-credit activities, credit continues to be the most insistent need of the agricultural classes and remained, therefore, the preponderating element in the co-operative movement.

The Act of 1912 legalised many co-operative societies which had hitherto no legal recognition. Societies were classified according as they were limited or unlimited. The registrars were expected not only to supervise but to spread the movement. With a poor and illiterate peasantry there were neither funds nor proper supervision for the development of the movement. The registrars in the flush of enthusiasm multiplied the number of societies which increased to 15,000 in 1914 with 695,000 members. A comprehensive resolution reviewing the progress of the movement was followed by the appointment of the Maclagan Committee which was asked to examine whether the movement was progressing on sound lines. The Committee examined the movement and made proposals of a far reaching character. In the result Provincial Banks were established in all the Provinces.

Further growth of the Movement

On the passing of the Government of India Act of 1919, co-operation became a provincial subject and was administered by the Provincial Governments. Three Provinces exercised the option given to them of enacting their own Provincial Acts—Bombay in 1925, Madras in 1932, and Bihar and Orissa in 1935. The following table indicates the growth of the co-operative movement in the whole of India including Indian States since its inception :—[1]

Average	Number of Societies in 000's	Number of members in 000's	Working Capital in 000's of rupees
1906-10 ..	2	162	6,800
1911-15 ..	12	548	54,800
1916-20 ..	28	1,129	151,800
1921-25 ..	58	2,155	363,600
1926-30 ..	94	3,689	748,900
1931-35 ..	106	4,322	946,100
1936-40 ..	117	5,077	1,046,770
1940-41 ..	142	6,401	1,093,200
1941-42 ..	145	6,735	1,124,200
1942-43 .	146	6,912	1,211,400

[1] "Statistical Statements relating to the Co-operative Movement in India 1942-43" Bombay, 1944 pp. 21-22

It appears that there was a very rapid growth in the number of societies and working capital between 1921 and 1930. When the Reserve Bank of India was established in 1935, it was asked to submit a report to the Government of India on the improvement of the machinery for dealing with agricultural finance and to maintain a special department for the study of all questions relating to agricultural credit. The introduction of provincial autonomy in 1937 was followed by legislation for the regulation of money lending and rates of interest. This legislation is said to have brought about a contraction of rural credit. The cultivator, encouraged to look to popular governments for quick relief from the burden of debt was not inclined to avail himself of the slower, more exacting benefits of co-operative finance.

The working of the societies shows that in 1939-40, whilst there were loans due by individuals to the extent of 20 crores of rupees, loans due by individuals which were not paid and for which extension had not been granted by the competent authority amounted to 9 crores. Moreover, due to the transfer to suspense account of overdue interest, the working of the agricultural societies in the Punjab showed a net loss of 70 lakhs of rupees in 1938-39 and a net profit of 11 lakhs for1939-40.

Structure of the Co-operative Movement

1. 'At the apex of the movement is the Provincial Co-operative Bank, which works both as a provincial financing body and as an agency for mobilising the surplus funds of other societies, like the Central Co-operative Banks and primary societies. The Provincial Co-operative Bank attracts deposits from the public, has a large working capital, and can obtain loans and guarantees from Provincial Governments. In 1942-43 there were ten such banks with a total working capital of 17.5 crores of rupees.

2. Below the Provincial Bank are the Central Co-operative Banks located in important centres such as district head-quarters and centres of business, and the supervising unions formed by the union of a number of primary societies. The Central Co-operative Banks attract deposits from middle class and rich people and lend only to the co-operative societies within their jurisdiction. They also guide and supervise the primary societies. In 1942-43 there were 589 Central Co-operative Banks with a working capital of Rs. 32.9 crores.

3. The primary societies are either agricultural or non-agricultural. Both the types comprise different classes, such as credit societies, sale societies, irrigation societies etc. Credit societies in both the types form

We also give below tables showing details of the operations of Co-operative Banks and Agricultural Societies :—[1]

Provincial and Central Banks in British India, 1942-43
(Rupees in 000's)

Banks	Number	Number of Members		Loans made during the year	Receipts from loans and deposits repaid during the year	Loans due	Loans and Deposits received during the year from	
		Individuals	Societies				Central Banks	Primary Societies and Individuals & other sources
Provincial	8	4,231	17,357	9,76,87	10,64,72	5,23,63	26,42,64	68,87,46
Central	478	69,065	98,062	20,17,17	18,55,54	17.20,25	8,45,37	41,63.36

Operations of Agricultural Societies in British India, 1942-43
Classes of Societies

Credit	Purchase and Purchase & Sale	Production	Production and Sale	Other forms of Co-operation	Total number
(a) 4,206	(a) 563	(a) 1,820	(a) 7,462	(a) 4,505	110,060
(b) 90,940	(b) 15	(b) 16	(b) 19	(b) 334	

(Rupees in 000's)

Total number of Societies	Number of members	Loans made during year	Receipts from loans and deposits repaid during the year	Loans due	Loans and Deposits received durirg the year from		
					Individuals	Central Banks	Primary Societies
10,060	4.002,211	12,15,21	13,04,26	26,71.60	3,82,46	7,23,42	836

a=limited, b=unlimited.

[1] "Statistical Statements relating to "The Co-operative Movement in India, 1942-43," 1944, pp 24-25 and 28-29

an overwhelming majority. The Agricultural Societies or the Raiffeisen Societies as we may call them, work on definite principles : (a) Only inhabitants of the particular locality can become members. (b) The working capital is supplied by Central Co-operative Banks. Very few primary societies have share capital. (c) Every member has individually and collectively unlimited liability for all the debts of the society. (d) All profits are carried to a reserve fund. In some provinces a maximum of 25 per cent of the profits may be spent for the benefit of the public of the locality. (e) Loans are granted only to members, and that too only for productive purposes. The loans are for short terms varying from 6 months to a year. (f) The office-bearers are honorary workers. (g) Societies can accept deposits from non-members but cannot lend money to them. The other type of agricultural societies are few in numbers. The non-agricultural or the Schulze-Delitsch Societies draw their working capital by issuing shares to members, from deposits and from loans from Central Co-operative Banks. Loans are granted only to members, on the collective security of the borrower and two other members of the society. The liability of members is limited.

The depression of 1930 and the fall in agricultural prices seriously hampered the growth of the movement. Many of the primary and central societies had to be wound up during 1933-36. A large part of the funds was frozen. In 1937-38, the total overdues from members of agricultural societies amounted to Rs. 11.4 crores, whereas the total working capital was Rs. 32 crores. An investigation by Sir Malcolm Darling showed that upto the end of 1934, 24 per cent of the total number of societies started since the beginning of the movement had gone into liquidation, the percentage varying from 9 in Bengal to 49 in the C.P. and Berar. As long ago as 1928, the Agricultural Commission summarised some of the fundamental weaknesses of the co-operative movement : " Members of societies delay payment even when able to repay ; understanding of the principles of co-operation and knowledge of the essentials of rural credit are lacking ; office holders refrain from taking action against defaulters, and the spirit of self-help is not as prominent as it should be, if the movement is to be a live force in the village. Even where defects are obvious and admitted, there is reluctance, as dangerous as it is regrettable, to liquidate societies whose condition is beyond remedy."[1] The Central Banking Enquiry Committee emphasised the need for carefully scrutinising the economic purpose of the loan, and the repaying capacity of the borrower, in dispensing co-operative loans.[2]

[1] Report, p. 449.
[2] Report, p. 133.

Reserve Bank Review

The Reserve Bank of India issued under the signature of the Deputy Governor a report in 1941 tracing the development of the co-operative movement to the end of June, 1940. It pointed out that the co-operative movement was passing through a crucial phase, and that the part played by co-operation in the building up of rural life has been disappointingly small, but that in spite of its past failure the movement can be developed so as not only to fulfil the function of providing cheap credit but also to become the chief instrument of rural reconstruction in India. The stagnation, if not the failure, of agricultural co-operation was due to two causes—the insecurity of agricultural incomes and their steep fall during the depression. The review also states that there was a third cause, namely, that the movement in India has failed to foster the true co-operative spirit of self-help and mutual help, that, in other words, it has failed to apply the principle of co-operation to the general regeneration of the rural population.

Concluding Remarks

Judged from the point of view of an agency for supply of cheap credit, it has to be remembered that such cheap credit does not cure the economic ailments of the agricultural classes. "The co-operative credit movement can flourish only if agriculture prospers." The improvement and prosperity of agriculture in India will depend on a variety of factors —consolidation of holdings, better seeds, improved methods of cultivation, more fertilisers, better rotation of crops, more irrigational facilities. The supply of credit will not by itself achieve these ends. The rural problem of India is the problem of raising the millions of the population to a moderate measure of material as well as social well-being. Co-operation in the larger sense—not in the sense of a cheap credit supplying agency—is a method of approach and a form of organisation. This method essentially consists not in having things done by others, but in learning to do things ourselves.

Amongst the various suggestions for extending the scope of usefulness of the co-operative societies may be included the proposal for the institution of multi-purpose societies. It is pointed out that the rural co-operative societies had in the past done little more than function as money lending institutions and had rarely taken a deeper interest in the life of their members. The Reserve Bank of India in its bulletins drew attention to this weakness of the existing co-operative system, and recommended that credit societies should be converted into multi-purpose societies, not only supplying finance, but helping in the betterment of the life of the

villagers, supplying pure seeds and improved implements, saving litigation expenses by measures of arbitration, effecting consolidation of holdings, promoting sanitation and providing medical relief -becoming in brief the centre of activities of the life of the village. In spite of the fact that the Agricultural Credit Department of the Reserve Bank of India advocated the institution of the multi-purpose society as the primary unit in villages, co-operative opinion in India does not seem as yet to have fully accepted the idea of a single society trying to meet all the needs of the cultivator. The cultivator has been regarded as a bundle of needs, each of which has to be met by a separate society.

One of the hopeful signs of our times, however, is the Report of a Committee appointed by the Government of Madras to inquire into the co-operative movement, and make suggestions for improving and strengthening it. The report adopts the idea of a multiple society as a primary unit in villages. New multi-purpose societies are already operating in Bombay and Madras with limited liability and an area of operation extending to several villages. In Baroda and the United Provinces, however, multi-purpose societies work on the basis of unlimited liability and the single village—a principle which the Reserve Bank Review characterises as having distinct advantages.[1]

There has been in our times a net work of co-operative organisations in Europe reaching deep down into the life of the rural population. In many of the European countries its first adoption has been followed by a remarkable economic and moral activity. A number of wrong ideas have occupied the field with regard to the character of the movement and the conditions to which it is subject. A report published in 1939 under the auspices of the International Labour Office gives us a comprehensive definition of the Co-operative Organisation. "A co-operative society is an association of the economically weak who, voluntarily associating on the basis of equal rights and equal responsibility, transfer to an undertaking one or several of their economic functions corresponding to one or several of the economic needs which are common to them all, but which each of them is unable fully to satisfy by his own individual efforts, and manage and use such undertakings in mutual collaboration to their common material and moral advantage."[2] This definition implies a level of education which is lacking in India. Democratic control is equally lacking. So also ability to conduct business and a federal structure of the larger units constituted freely from below. The purpose and the

[1] Reserve Bank Review of Co-operative Movement, p. 24.
[2] "Co-operative Action in Rural Life," Geneva, 1939, p. 5.

structure are bound together ; and whereas in India the structure is so radically different from the purpose, not much can be reasonably expected of the co-operative movement.

But apart from the question of fulfilling its ideal we may ask : Has the co-operative movement succeeded in the limited task of supplying cheap credit to the agricultural population ? The total working capital of the agricultural societies was roughly Rs. 30.5 crores in 1939-40. Rs. 8.1 crores were lent to the cultivators, perhaps half a per cent of the total agricultural indebtedness of India. It may be pointed out also that the vast majority of the peasantry do not possess even the means required to become members of the co-operative societies. "At one end of the scale there are people who are so well off that they do not desire to incur the risk of unlimited liability by enlisting themselves as members. At the other end, there are persons who are so poor that they are refused membership. It is, therefore, not unfair to assume that the co-operative population represents the medium agricultural population."[1] So also the Agricultural Commission observe : "Except in the Punjab, Bombay and Madras, the movement in the major provinces has so far reached only a small part of the rural population."[2] So also Dr. Anstey : "Another difficulty is that credit societies are of no use in the poorest districts, where the cultivators are most in need of aid. It is worse than useless to give loans to cultivators who are permanently incapable—owing to fragmentation, climatic or other difficulties—of making their holdings stay. Thus it is chiefly in the most prosperous areas that credit societies are successful."[3] Dr. Harold Mann, once Director of Agriculture in Bombay, observed in 1941 : "On the whole the outlook for the co-operative movement as hitherto organised . . . makes me rather doubtful as to whether a very different attitude is not required to the movement by the authorities than has been the case in the past."[4]

When we consider the place of the co-operative movement in the economic life of India and the factors that can account for its slow growth, we have to remember, in the first place, that it was originally intended to meet the evils of usury and indebtedness, and, therefore, confined to the supply of cheap credit. Whatever criticisms we may have to offer about this aspect of the movement do not necessarily apply to the non-credit societies many of which have been started during recent years in

[1] Bengal Provincial Banking Enquiry Committee Report, p. 59.
[2] Report, p. 447.
[3] Dr. Vera Anstey," "Economic Development of India," p. 202.
[4] Dr. Harold Mann in a letter to the Editor. Indian Co-operative Review

parts of the country. Societies for the marketing of cotton and gur in Bombay, consolidation of holdings in the Punjab, sugar cane supply in the United Provinces and Bihar and irrigation in Bengal have been working with success, and can stand comparison with similar institutions in other parts of the world.

Secondly, if as credit institutions the co-operative movement has not met with the success that was anticipated from it by its sponsors, one reason may be found in the fact that it has been sponsored from the top by a Government that cannot evoke the ready response and services of the young and the ardent, who look with suspicion upon every movement so started. "Government are so out of touch with public feeling and sentiment that despite their control of the machinery of administration they fail in their efforts to seek an expansion of the movement."[1]

In the next place, whilst Government interference is not lacking, Government assistance on the scale on which it is needed to ensure the success of the movement is largely lacking. The cost of administration and of a paid agency for propaganda and guidance has made it difficult to reduce the rates of interest on loans. Supervision and control from above have made the system of finance rigid and inelastic.

Writing about the co-operative movement Sir John Russell observes: "The outstanding instance of success in co-operation is Denmark, a land of small farmers; and it has given them a standard of living that is the envy of the civilised world. Four essential conditions of success are all present in Denmark:

(1) The village population is homogeneous; there is nothing corresponding with caste distinctions.

(2) The cultivators are all literate.

(3) From the outset People's High Schools were set up where the cultivators were taught better living both in the home and the village and where ideas of corporate responsibility in village and national life were inculcated.

(4) The Co-operative Societies are mostly trading societies, taking over the produce from the cultivator, working it up into marketable form and selling it for him. Also they supply him with all materials for use in the home and on the farm. They are mainly financed by the local banks, and the members are jointly and severally liable for the loan. As depositors the members provide a substantial part of

[1] V. L. Mehta, "Is Co-operation Suited to Rural India?" in *Indian Journal of Social Work*, December, 1942.

the funds ; it is their own money that is lent to members, and in consequence each borrower feels himself under the necessity of repayment."[1]

Unfortunately none of these conditions obtain in India and those who look to the co-operative movement as the one solvent of our agrarian difficulties might well take into account the absence of those conditions that have made the movement so successful in Denmark.

CHAPTER XII

RURAL DEBT AND RURAL FINANCE (*Continued*)

Other Forms of Co-operation : Non-Credit Societies

Equally vital in rural economy is the place of co-operative marketing societies.[2] Societies for the supply of sugar cane to sugar factories in Bihar and the U.P. constitute a class by themselves. Bihar has 1488 societies of this type, and the United Provinces 839. The cotton sale societies in Gujarat pool the produce and distribute average prices. Societies for the consolidation of holdings in the Punjab have during the last twenty years led to the consolidation of over a million acres of land. There are irrigation societies in Bengal numbering over a thousand, that undertake minor irrigation works on behalf of their members. Besides these, there are different societies like ghee production and sale societies in the U.P. (783), anti-malaria societies in Bengal (1099), loan and sale societies in Madras (149), and milk supplying societies near Calcutta (226) etc.

Agricultural Sales Societies

Marketing of agricultural produce can be most effectively helped by co-operative institutions. The individual is illiterate—a co-operative society may earn for him the benefits of knowledge of market conditions. The working of these co-operative sales societies is somewhat complex and finance for marketing on a large scale is difficult to obtain. There is, moreover, a lack of knowledge of technique on the part of co-operative officials, and the absence of godown and storage facilities prevents the rapid multiplication of sales societies. It has been said that credit alone will not solve the problem of marketing and that we may hope for better results in developing this type of sale societies with ample credit facilities. The cotton sales societies in Bombay have benefited the growers. The

[1] Sir John Russell's Report, p. 63.
[2] We discuss the question of marketing in another section.

sale societies of Surat have recently combined in a federation taking over a co-operative ginning factory started by the members. Bengal has several jute sale societies with a jute wholesale society at Calcutta. Recently provincial co-operative marketing societies have been started with Government assistance in Bombay and Madras. During 1939-40, there were 4120 agricultural trading societies with a membership of about four and a half lakhs. The Report on the Co-operative Marketing of Agricultural Produce in India states : "Under the scheme of controlled credit in the province of Madras, the borrowing members of a credit society are required to sell their produce through the loan and sale society to which the credit society is affiliated, so as to provide a link between credit and marketing. It is recommended that the scheme may be adopted by all the provinces and States with such modifications as are necessary to suit local conditions."[1]

Land Mortgage Banks

The need for a separate agency for the supply of long term loans for the liquidation of past debts and the improvement of land led to the establishment of Land Mortgage Banks. The first such bank was established in Madras in 1929, under the name of the Central Land Mortgage Bank. It co-ordinated the working of primary banks in the province which increased from 12 to 119 in 1939. Upto the 30th June, 1940, the Bank had floated debentures guaranteed by Government for principal and interest to the extent of Rs. 264 crores. There were no arrears in respect of the loans of the Bank which amounted to nearly Rs. 2 crores. This satisfactory position was due to a variety of causes—care in examining titles of lands taken as security, adjusting the period of loans to that of debentures, and fixing the instalments for repayment according to the capacity of the borrowers. Amongst other factors, that contributed to the success of Land Mortgage Banks in Madras, may be included the active assistance given by Government, special powers for recovery of defaulted instalments, and the absence of restrictions on the alienability of land.

Bengal had five land mortgage banks by the end of 1940. In other provinces there are a few inadequately developed institutions, whilst in Bombay a Central Land Mortgage Bank was established in 1935. It has been pointed out that a debtor in Madras cannot borrow from a land mortgage bank more than half the value of his property. Only ten per cent of the applicants were found to have sufficient security to offer. The

[1] Report issued by the Agricultural Marketing Adviser to the Government of India, 1943.

Reserve Bank Review on Co-operation points out that the banks have been too much concerned with the redemption of old debts, and too little with the improvement of agriculture. It likewise pleads for closer co-ordination between the land mortgage banks and the debt conciliation boards set up in many of the provinces and also with the other co-operative organisations.

Future Prospects

The survey of Co-operative Action in Rural Life in Europe prepared by the International Labour Office, 1939, observes : "These (co-operative) organisations are characterised above all by spontaneity ; they are clearly the direct expression of the needs from which they issue, and are exactly adapted to those needs. Everywhere their roots lie deep down in the people's traditional way of life, and reach far back into the old communal institutions of which, in modern economy, they are the rejuvenated form. They have grown in size and multiplied in number solely or mainly by the direct efforts of their members, and have neither in every case nor at every time had the benefit of legislation suited to their original character."[1] It is this spontaneity in the movement that is lacking in India and compels us to observe that only State action backed by the resources of a sympathetic administration, can best utilise such existing institutions as have their roots in the village life of the past.

If we have been critical about the working and achievements of the co-operative movement as a credit supply movement initiated by a Government suffering from the weaknesses of red tape administration, such criticisms must not be interpreted as hostility to the movement itself. Even as a credit supply movement it has potentialities of immense good, if with the backing of the resources of the Government, it offers cheap credit for current needs of the cultivator. But there are other aspects of the co-operative movement which have even a larger bearing on agricultural prosperity than the supply of credit—the development of marketing, the supply of improved seeds, bunding and anti-erosion schemes, increase of well irrigation, land reclamation schemes, consolidation of holdings and the revival of cottage industries." The task of the co-operative movement is nothing less than the application of co-operation to the general, and particularly the economic, regeneration of the rural population."[2] Only when this re-orientation occurs, the co-operative movement will become a national movement for agricultural reconstruction.

[1] "Co-operative Action in Rural Life," Geneva, 1939, p. 41.

[2] Reserve Bank Review of the Co-operative Movement, p. 81. See also V. L. Mehta, "Is Co-operation Suited to India?" in Indian Journal of Social Work, December, 1942.

Even in Western countries, it has been pointed out, the small holder, left to himself, is ill-informed about prices, rates of transport, and the state of the real demand in centres of consumption. "The problem (of marketing) is by its very nature insoluble for isolated small producers . . . Co-operative organisation gives the small holder all the advantages which capital places at the disposal of the large land owners."[1] In India the cultivator suffers from all these disadvantages—and co-operative marketing in the form of sales societies cannot solve these difficulties, unless the State comes to the help of these societies. The urgent and immediate need is the need for eliminating the middlemen. If these middlemen are to be eliminated, we need an organisation which can collect the farm produce, arrange for weighing, standardising and storing, advance cash to the cultivators to enable them to meet their liabilities and their next cropping cost, and market the produce, obtaining for the cultivators the best available price. Such an organisation, whether it is a sales society, or any other form of co-operative organisation, in a country like India presupposes and requires for its successful working an elaborate credit structure provided with funds by the Reserve Bank of India. The Reserve Bank already possesses the statutory powers for providing rural credit to credit institutions and Provincial Co-operative Banks. It has hitherto refrained from using its resources in this direction ; it has even regarded with a questioning attitude the supply of credit which would enable the cultivator to hold on to his crop instead of parting with it under unfavourable conditions.

Under a planned economy, with a Central Bank controlled in the wider national interests, we can visualise brighter prospects for our agriculture. We can fix minimum prices for our agricultural commodities, standardise qualities and systematically develop credit institutions, connecting the cultivator and his rural markets with the central markets. In a country predominantly agricultural like Canada, Central Banking institutions have taken the initiative and provided all the credit that the farmers need for raising and marketing the crops. In a country like India with banking institutions still in infancy, with the mass of the rural population unfamiliar with banking, it is all the more imperative that the Reserve Bank already possessed of the necessary powers, should take the initiative, and by applying national funds to a national purpose revitalise our declining agriculture.

In brief, it is desirable that the co-operative societies should not only take on the work of storage and sale of the crops, but should transform

[1] "Co-operative Action in Rural Life", p. 18.

themselves into multi-purpose societies with limited liability, if unlimited liability fails to attract support. Such societies might not only help the cultivators in marketing crops, but might contribute to the uplift of the villagers by organising education, sanitation, the improvement of village roads, and even undertaking the urgently needed task of social reform by way of education. All this work implies planning. But, as Prof. Mukerjee observes, "Planned co-operation must be an offensive on all fronts. Weakness or indefensibility in one sector will establish the foe in no time within the entire territory. The peasant's life with its inefficiency, simplicity, fear and ignorance is one undivided whole, and that rural programme succeeds which can improve him from all sides, economically, socially and morally."[1]

Agricultural Marketing

The trade statistics of India so far as they refer to internal trade are very unsatisfactory and give us no definite view of the exent of the trade. In the early days the cultivator grew his own food ; and whatever surplus he produced was sold in the market at harvest time for purchasing other necessaries of life. Indian agricultural economy has now been changed to a considerable extent, and with the introduction of roads and railways and the substitution of cash nexus for the old customary basis of economic relationships, commercialisation and production of agricultural crops for the market have replaced the old organisation. In view of the fact that India itself is the main market for her agricultural produce, the marketing problem acquires an importance of its own. The value of the total agricultural produce of British India was estimated by the Banking Enquiry Committee at roughly between Rs. 1200 and Rs. 1300 crores in 1929. Out of this, the value of the produce exported outside India was estimated at Rs. 200 crores. Dr Rao has estimated the total gross value of agricultural production for the year 1931-32 at Rs. 7836 millions and net value after deducting wastage, depreciation etc., at Rs. 5927 millions.[2]

Conditions and Methods of Marketing

In spite of the fact that the Indian cultivator has to depend almost entirely on the internal market, there is no "orderly marketing" in India and the producer markets his produce under disadvantageous conditions. At present (1) there is the practice of holding a local or weekly market in which large quantities of agricultural product are bought and sold. (2) The local money-lender frequently purchases the produce from the

[1] "Planned Co-operation" in Indian Co-operative Review, 1941, p. 18.
[2] V. K. R. V. Rao, op. cit. p. 81.

cultivator to sell it in a wider market. (3) Itinerant buyers go round the villages on their own account or on behalf of employers, collecting the produce for a distant market. The absence of knowledge of market conditions and of price fluctuations in such markets, due to the illiteracy of the agriculturists, places them at the mercy of the money-lenders and the middlemen.

The broad feature that marks agricultural marketing conditions in India is the excessive number of middlemen who intervene between the cultivator and the final disposer of the crop. In many parts of the Punjab and the U.P., nomadic or itinerant middlemen known as banjaras collect grains in the villages. They traverse the country carrying the grain over great distances. They advance paddy seeds at sowing time, going from village to village, and receive payments in paddy often amounting to four or five times the amount of the advance. There are also the gari-wallas or cartmen as well as banias with their ponies or buffaloes going about in the villages at the harvest season. The well-to-do cultivators may keep their own carts and send their produce to the periodical market or mandi. But the majority have to deal with banias, sahukars and others. For crops like linseed, mustard, wheat and sugar cane, the cultivator has to deal with the itinerant dealer, who in turn is linked up with the arhatiya, who sells the commodity in the mandi. Similarly, the agents of large exporting firms go about the villages collecting wheat, cotton, groundnuts from the rural areas. The difference between the price received by the cultivator and central market prices is roughly estimated at about 15 to 20 per cent. This difference includes the gains of the middlemen as well as transport and freight charges.[1] In an agricultural economy like that of India even a 15 per cent profit by the middlemen may involve an encroachment on the cultivator's subsistence income which he cannot afford except by semi-starvation. Particularly after the depression of 1929, whilst prices of agricultural produce have gone down the profits of the middlemen have grown, though figures of such growth are not available.[2] Moreover, charges such as cost of transportation, storing, banking and insurance are stated to be the highest in the world.

The Royal Commission on Agriculture observe in this connection: "From all provinces we received complaints of the disabilities under which the cultivator labours in selling his produce in markets as at present organised. It was stated that scales, weights and measures were mani-

[1] "Agricultural Marketing" in "Economic Problems of Modern India," Vol. I, 1939, pp. 294 *et seq.*

[2] S. C. Majumdar, "Rural Marketing in India," in "Rural India," April, 1940, pp. 233 *et seq.*

pulated against him, a practice which is often rendered easier by the absence of standardised weights and measures and of any system of regular inspection. Deduction against which he has no means of protest are made in most markets for religious and charitable purposes and for other objects. Large samples of his produce are taken for which he is not paid even when no sale is effected. Bargains between the agent who acts for him and the one who negotiates for the purchaser are made secretly under a cloth, and he remains in ignorance of what is happening. The broker is more inclined to favour the purchaser than the seller whom he only sees very occasionally."[1] The Banking Enquiry Committee add another disability that even after prices are settled, at the time of weighment the price is still further cut down by refusal to take delivery on the ground that the quality is inferior.

The conditions of marketing, moreover, differ from province to province. While the better type of cultivators keep their full supply of requirements for the year and sell only the actual surplus, the majority who are already burdened with a debt are compelled to sell a large portion of the total crop and borrow back some of it later in the year. In the case of grain loans the crop in its entirety is often handed over to the money-lender. Mr. Keatinge observes in connection with the Deccan : " In case of jowar and bajri most of the surplus produce comes into the market immediately after the harvest and in the case of cotton, wheat and oil seeds practically the whole crop is marketed at once."[2] In a large number of cases, the money-lender becomes the owner of the crops even before it is harvested. Where the crops are cash crops entering into the international market, brokers make advances to the cultivators on standing crops. In other cases, agents of commercial firms go from village to village for purchasing the crops on the spot. Gilbert Slater in his study of South Indian villages quotes cases where cotton is sold by the ryots to the agents of ginning companies or to merchants who visit the villages.

The Banking Enquiry Committee mention reports from almost all parts of India where the advances to the cultivators not only carry high rates of interest, but put the borrowers under an obligation to sell their produce for less than the anticipated market price. Thus in some parts of Bengal, the advances carry interest from 24 to 75 per cent, and the rate at which the grower binds himself to sell is often lower by 10 to 25 per cent than the anticipated market price. In Bihar and Orissa, a system of advances carrying a liability to sell the produce through the lender

[1] Report, pp. 388-9.
[2] Op. cit., 158 *et seq.*

is reported among cotton and sugar cane growers and ghee dealers in the United Provinces ; and the producers obtain for their produce less than what they would have got if they had been free to market the produce themselves.

Another point brought out in the Provincial Banking Committee's Report relates to the effects of the cultivators' indebtedness on the marketing of his produce, even if the cultivator does not borrow specifically for raising the crop. The Bengal Committee report that the cultivator who is indebted is always pressed heavily by the creditor immediately after harvest. The effect of this pressure is so great that the borrower is compelled to sell his produce as quickly as he can, and if all sell at the same time the price naturally comes down by competition.

Thirdly, the Bombay Banking Enquiry Committee observe that a small percentage of the cultivators sell their standing crops of cotton, either for want of money or for speculation. The mango crop in Bombay is almost invariably sold when it is on the trees, and sometimes even before it is actually seen in blossom.

Recommendations of the Agricultural Commission

The Royal Commission on Agriculture recommended—and the Provincial and the Central Banking Enquiry Committees endorsed the recommendations—the following measures for improving and organising agricultural marketing :—

(1) Improvement of transport facilities including rural communications. (2) Lowering of railway freight rates and grant of other railway facilities. (3) Establishment of regulated markets under Provincial Legislation on the lines of the Berar and Hyderabad Market Acts. (4) Standardisation of weights and measures. (5) Adoption of measures to secure improved quality of produce by organisation amongst buyers and traders and to guard against adulteration. (6) Fixation of standards and grades of commodities. (7) Promotion of co-operative sale societies and other suitable organisations for purposes of sale. (8) Holding of auction sales by Agricultural Departments to ensure increased price to the cultivators who produce improved varieties. (9) Carrying out of market surveys. (10) Appointment of expert marketing officers on the staff of the Agricultural Department, able to understand the language of the market.[1]

[1] Agricultural Produce Market Acts are already in force in the Punjab, the N.W.F. Province, Sind, Madras, C.P. and Bombay. The Standards of Weight Act, 1936, came into force with effect from 1st July, 1942. Standards of Weight Rules have also been prepared.

The Banking Enquiry Commtitee further recommended that Provincial Governments should consider the desirability of advancing long term loans at concessional rates to co-operative societies to build godowns in market centres. They stressed the importance of providing warehouses by private agencies, and the need for a detailed investigation of the problem of starting railway warehouses in the chief centres of trade. They advised the placing of railway receipts by the legislature on the same footing as bills of lading.

As regards the conditions of external marketing Dr. Clouston, who was deputed by the Imperial Council of Agricultural Research to the British Industrial Fair in 1930, reported that " the reputation of Indian agricultural products in the world's markets is low. The price paid by consumers in Europe for these products is based very largely on the reputation and this reacts unfavourably upon the price received by these cultivators who have improved the quality of their produce."[1] Dr. Clouston pointed out that some of the firms of Europe believe that India cannot produce high grade wheat and other products ; he gave facts to disprove this notion, and pleaded for better organisation. The producer in India " has little incentive to market his produce in the best possible condition, unless that condition is recognised in the price he gets for it."[2] The foreign banking experts to the Banking Enquiry Committee pointed out that if steps were not taken to organise India's exports in such a way as to meet the modern requirements of world trade, there would be an inevitable reaction on the internal market to the great detriment of the cultivator.

Measures for Marketing: (a) Transport Facilities

One of the important factors that make for effective marketing in the interests of the cultivators is transport. India has about 45,000 miles of Railway, 85,000 miles of metalled roads and 225,000 miles of non-metalled roads, giving an average of 19 miles per 100 square miles of territory, as compared with 77 miles in Germany. The total mileage of motorable roads is 186,000 of which 83,000 are motorable throughout the year, and 103,000 motorable in fair weather. The existing roads are (a) national, (b) provincial, (c) district and (d) village roads. National roads are under the charge of the Public Works Department. Village roads are the concern of the villagers, with the result that they are neglected. Most of them are tracks which become unusable during the rains. The Royal Commission on Agriculture recommended liberal grants by

[1] Quoted in Central Banking Enquiry Committee Report, Vol. I, p. 208.
[2] Report of the Royal Commission on Agriculture, p. 398.

the Local Governments for the construction and improvement of village roads. In 1940, the Standing Committee for Roads approved a grant of ten lakhs of rupees to Provincial Governments for road improvement. The construction and development of feeder roads have hitherto been starved, as the Road Fund created since 1937 was used for development of inter-provincial and inter-district roads. The Government of India have now laid down that 25 per cent of the Provincial shares in the Road Fund should be used on feeder roads. What is most urgently needed in the interests of the cultivators is not only an intensive construction of roads, but the co-ordination of railway services with motor transport, and increasing facilities for the transport of perishable products such as milk, fruits and vegetables.

The Government of India after consultation with Provincial Governments appointed Mr. Livingstone as the Agricultural Marketing Adviser in 1935. When he relinquished his office in March, 1941, Dr. N. Das, Deputy Marketing Adviser was appointed to officiate. He has been succeeded by D. R. Sethi since September, 1942, who is also the Director of Agricultural Production (food) under the Government of India. With the help of subsidies from the Imperial Council of Agricultural Research the Provincial Governments established similar organisations in their respective areas. A few leading States have also nominated officers to deal with marketing questions. The scheme was originally sanctioned for a period of five years and the new organisation was given the task of (1) carrying out marketing surveys and publishing reports describing the present system of marketing of some of the more important agricultural products with recommendations on the lines of improvement and (2) drawing up suitable grade specifications after examining the characteristics of market samples.

In 1937, a report on the Cold Storage and Transport of Perishable Produce in Delhi was issued, followed by all India marketing survey reports on wheat, linseed, eggs, tobacco, coffee, grapes, milk and rice. A handbook on the quality of Indian wool, intended to serve as a guide to wool merchants, has also been prepared. Survey work is in progress in respect of a number of commodities. At the Sixth Annual Conference of Marketing Officers in October, 1940, it was decided to undertake similar surveys in respect of 26 new sets of commodities such as castor seeds, pulses, millets, oilseeds, poultry and dairy products, etc.

With a view to studying the commercial possibilities of cold storage transport of perishable products like fruits, certain refrigerated transport trials were conducted during 1940-41 on two N.W.R. cold storage wagons.

But further survey and experiments had to be postponed in view of transport difficulties due to the war.

(b) Grading of Commodities

With a view to securing improved quality from the producer, the physical grading and packing of commodities like fruits, eggs, etc. were undertaken. The Agricultural Produce Act, 1937, defined standards of quality and methods of marketing in respect of prescribed grade designations applied to scheduled products. The schedule now includes fruits, vegetables, eggs, dairy produce, tobacco, coffee, *atta*, vegetable oils, oil seeds, cotton, rice, wheat, and sugar cane gur. The *Agmark* is applied to the commodities thus graded. By the end of 1942 the standardised grading and marking of commodities was carried at 736 centres. During 1943 alone, more than 549 lakhs of rupees worth of produce was sold under the *Agmark* as compared with 102 lakhs in 1940 :—

Commodity	Value of Produce Graded			
	1940	1941	1942	1943
	Rs.	Rs.	Rs.	Rs.
Ghee ..	42,13,677	55,13,080	78,32,170	339,18,431
Hides	16,28751	16,82,346	11,41,958	14,11,983
Eggs	3,06,744	3199,127	6,04,860	13,09,500
Tobacco	3,25,000	2,33,942	12,42,435	11,81,513
Ata .. .	3,82,067	10,51.209	17,10,366	9,37,495
Rice .. .	10,46,759	14,38,498	15,01,645	3,48,451
Groundnuts	5,000	480	—	—
Edible Oils	2,69,990	7,99,801	49,515	11,21,699
Sugar Cane Gur ..	39,390	52,372	48,927	3,13,769
Cotton ..	17,00,000	18,09,527	49,83,900	63,18,019
Citrus Food Products	3,500	66,458	2,49,912	3,37,845
Butter .	—	3,73,632	24,06,781	24,98,666
Fruits and Vegetables	3,44,960	4,60,592	4,62,322	4,70,044
Seed Lac ..	—	1,28.790	1,64,572	—
Bura	—	21	15,300	1,82,649
Sam Hemp .	—	—	17,06,500	45,60,742
Potatoes .. .	—	—	—	16,366
Total . ..	1,02,65,838	1,40,09,875	2,41,21,163	5,49,27,172

In order to control the quality of graded produce, arrangements have been made for the systematic collection and analysis of samples of graded produce. Over 6,000 samples of ghee, and 300 samples of edible oils were analysed at the Central Control Laboratory, Cawnpore, during 1941.

The Agricultural Marketing Scheme has been extended upto the end of the War as an interim measure pending further examination. Looking at the problem as a whole, there are two observations which we may make. In spite of the valuable work done by the Marketing Depart-

ment, it may well be asked if the results achieved so far justify the expenditure involved ; and secondly, even if grading arrangements are carried out on an even more extensive scale than at present, the benefits would hardly be earned by the mass of the agricultural population, sunk in poverty and overburdened with debts. The classes who would benefit are the middlemen and the men interested in foreign trade rather than the industrious and semi-starved farmers.

Rural Reconstruction and Organisation of the Village Community

In the West as co-operative action developed, it was directed outside the strictly economic interests of the peasant's household to tasks concerning his health and general welfare. It was even directed to the village community as a whole supplying to it the equipment and organisation in which it was usually lacking. Thus in France, co-operative societies were instrumental in improving rural housing, by equipping existing farm buildings or by building more spacious and healthy houses. In Hungary, the National Co-operative Society for Rural Housing with Government help made possible the construction of 38,000 small houses in 7½ years.[1] In France, a decree of June, 1938, enabled the National Agricultural Credit Fund and the Regional Funds to make loans to local authorities for laying on drinking water and the construction of roads. There are electricity and water supply co-operative societies also. In Yugoslavia, health co-operative societies built fountains, provided dung pits, improved village streets, arranged for a doctor and a small hospital in each rural community concerned. In Denmark, 1,077 societies with a membership of over 194,000 maintained sanatoria.

Rural reconstruction on similar lines has of late years claimed some amount of attention in India. But what has been done so far has been done by individual efforts—the efforts of men and women fired by the impulse of social service and using their gifts to contribute to the welfare of the village folk. Such work has been organised at Gurgaon, in the Punjab, covering education, sanitation, medical relief, improvement of agriculture and maternity welfare. The Punjab Government subsequently appointed Col. Brayne, who was working at Gurgaon, Commissioner for Rural Reconstruction ; and Bengal has followed by making a similar appointment.

The total number of non-agricultural societies rose to 18,802 in 1942-43, with a membership of 2,246,000, from 17,442 societies with a membership of 1,908,000 in 1940-41. The working capital increased from Rs. 28,53 lakhs in 1940-41 to Rs. 33,95 lakhs in 1943-44.

[1] "Co-operative Action in Rural Life," Geneva, 1939, p. 28.

Better Living Societies

There are 300 Better Living Societies in the Punjab doing valuable work in their own way. The members are not charged any subscription except a small entrance fee. They lay down a programme of work, and make rules, the violation of which is punishable with fines. These societies have for their object the curtailment of extravagant expenditure on marriages and other social functions. Apart from the savings to members this involves, they contribute to the village uplift, some by levelling and paving the village streets, some by promoting sanitation. Some societies have induced villagers to provide ventilation in their houses ; others have constructed or repaired drinking wells ; still others have provided manure pits. It has been suggested that the co-operative credit societies should undertake these functions, carrying on the general work of village uplift alongside of their specific object of providing cheap credit.

The Future

When discussing the problem of rural reconstruction let us not forget the substantial work achieved by Gandhiji during the last few years. The whole problem of economic regeneration of India for Gandhiji centres round the village as the economic unit. Gandhiji started from the conviction that the country is not prepared for a revolutionary change in its economic organisation and that reform along capitalist lines looking to Government for active assistance would be equally futile. He, therefore, set out a programme for village uplift of which the main items were the revival of hand spinning and hand weaving combined with that of other village industries, a new type of education suited to the agricultural population, the uplift of women, better sanitation and the removal of untouchability and the drink habit. This programme was to be carried out through voluntary effort, backed by voluntary sacrifice on the part of the consuming public, through an education that would make the producer look upon his work as an opportunity for service, and not as a means of making private gains. The village worker would be at the same time "the scavenger, the nurse, the arbitrator of disputes and the teacher of the children of the village." "The whole of this programme will, however, be a structure on sand if it is not built on the solid foundation of economic equality. Economic equality must never be supposed to mean possession of an equal amount of worldly goods by every one. It does mean, however, that every one will have a proper house to live in, sufficient and balanced food to eat, and sufficient khadi with which to cover himself." The All-India Village Industries Association was formed in 1934, in accordance with the resolutions of the Indian National Con-

gress, with a programme of improving village sanitation, diet and village industries. The work of the Association was helped and financed by the Provincial Congress Ministries, and was supplemented by the activities of the All-India Spinners' Association and the Gandhi Seva Sangh.

The co-operative movement in the West has evolved into a movement for rural reconstruction. It has tended to exert an influence over the general life of the village. "By means of meetings, festivals, games, the wireless, the cinema, the establishment of libraries, etc., the local co-operative societies and their federations do all they can to provide the countrymen with opportunities for relaxation, culture and communal life."[1]

In India, we have the foundations for the growth of a similar movement through the old village panchayats. We have the prospect of making it a spontaneous movement starting from the bottom, namely, the village unit, helped by the influence and work of Gandhiji and his followers. With the advent of National Government, we may have the right kind of collaboration between the Government and the co-operative movement making possible through legislation and financial resources the uplift of the rural population and the revival of our agricultural prosperity.

CHAPTER XIII

FARM ACCOUNTS AND FAMILY BUDGETS

Agriculture in India, it must not be forgotten, was based on a self-sufficient economy in the past ; the cultivator produced primarily for his own needs. Thus, agriculture in India could scarcely be regarded as an industry, yielding a margin of profit to the producer under competitive conditions. During the last century, however, the cultivator in India has been drawn into the price economy and the international market, whilst at the same time, he has not radically changed his methods nor adopted any of those devices which characterise commercial agriculture in the West. The result has been that our agriculture has been a deficit occupation, in the sense that commercially it does not leave the farmer a net profit after making allowance for all the elements involved in the cost of production. This conclusion has been borne out in the last twenty years by the study of farm accounts and farm management details in the different parts of the country.

[1] "Co-operative Action in Rural Life," Geneva, 1939, p. 29.

Village Surveys and Farm Accounts

It has been only during recent years that attention has been drawn to the question of farm management in India. The results of investigations into the problem may prove of considerable help to cultivators in the organisation of farms. Farm accounts may give us fairly accurate information about the income and expenditure of the farmer, which can be compared with similar data on other farms, enabling him to locate his strong and weak points. Such accounts are also helpful in laying down an agricultural policy based upon data with regard to the economics of various systems of farming. Questions bearing on the share of tenants and of landlords in the farm income may also be resolved with the help of such information. A single method of investigation may not be suitable for the entire country of the size of India. Each province has its own special features, with differences in climate, soil, size of holdings, means of irrigation and labour supply. The methods and practices of agricultural production also differ from province to province. It is desirable, therefore, that different lines of work and research should be resorted to, not only to co-ordinate conclusions and results within the same area but also for the purposes of comparison between conditions prevailing in different provinces.

The "survey method" tries to cover a large number of cases with a view to presenting a general view of a whole tract or locality. "Cost accounting" takes into account details regarding a few individual farmers, and involves an analysis of all direct and indirect expenses, so as to determine cots and profits on each product. Survey methods are helpful in the study of general economic conditions of a particular area. Cost studies are very difficult in a country like India, due to the illiteracy of the peasantry and the heavy expenditure involved in the collecting of information. And yet, in the absence of accurate information with regard to costs of production, all such attempts as are recently made for the control of agricultural prices are likely to court failure.

The survey method admits of comparison of a large number of farmers with one another, and brings to light the factors which might promote better farming. Such a survey is usually founded upon a demarcation of the country into economic zones, according to the nature of the climate, the soil and conditions of farming. In each zone, villages may be selected for the purposes of survey, the sampling being determined in the light of the purpose for which the results are to be used.

Some Village Surveys

It was after the World War of 1914-18 that village surveys came to

occupy a dominant place in economic investigations. One of the early studies in this direction was that undertaken by Dr. H. H. Mann in 1917 entitled "Land and Labour in a Deccan Village." In his preface Dr. Mann said, "The study of rural life and of rural conditions by close inquiry into the circumstances of a single unit, be it village, parish or estate, has come to the front in recent years as a method of social and economic investigation. And by the use of this method, if the villages to be studied are well chosen, a very much more intimate acquaintance with the actual conditions of life than by any other method can be obtained." In 1925-28, studies in the cost of production of individual crops such as bajri, jowar, gram, wheat, groundnut and sugar cane were undertaken in connection with farmers in villages near Poona, Sholapur and Nasik, and were published in a departmental bulletin. The foreword to the publication by Dr. Mann stated: "The study of the costs of cultivation of different crops in India has hardly been commenced anywhere. Without such a detailed study, it is extremely difficult to judge the relative value of alternative crops taking into account such factors as the utilisation of available labour, otherwise unemployed. In fact, the study of costs of cultivation under a peasant system of agriculture, while of the extremest importance in considering the real economic position of the owners and workers on the land, is an almost unopened field of study anywhere in the world."

In 1928-30, the study of farming units was undertaken. It was found that the net profit measure, in vogue in India and England, was not suitable for peasant farming in India, where farming is followed more as a means of livelihood than as a business. In 1930-31, a fairly homogenous tract predominating in jowar was selected in Sholapur district, and a few farmers' activities were studied by the cost accounting method. In 1931-32 a tract in Charotar (Gujarat) was selected. Records were maintained by the cost accounting method and the results are being scanned.

Similarly in the Punjab, the Board of Economic Enquiry began from 1919 systemtaic economic surveys of a representative village in each of the 29 districts of the Punjab. So far sixteen surveys have been conducted. The Board has also published "Farm Accounts in the Punjab." Since 1923, there has been a continuous publication every year of the accounts of some farms in the Punjab, a work initiated by the Agricultural College, Lyallpur. Similar Boards of Economic Research have been set up in the United Provinces and in Bengal. The Imperial Council of Agricultural Research in co-operation with the Indian Central Cotton

Committee undertook the study of cost accounting of 1,150 holdings in 144 villages in different districts. The results have been published in the form of Provincial Reports. The Marketing Department has undertaken marketing surveys, giving a complete picture as regards supply, demand, price, methods of transporting, marketing and distribution of agricultural products like rice, wheat, linseed, eggs, etc.

The Wai Taluka Survey

The Gokhale Institute of Politics and Economics at Poona undertook "a survey of farm business in Wai Taluka in 1936-38."[1] The tract consisted of 39 villages with a total area of 87,660 acres and a population of 49,563 in 1931. The villages from which farmers were selected had an area of 59,515 acres. Out of 3,216 farmers who owned at least one bullock, survey schedules were completed, relating to 490 farmers in 1936-37 and 620 in 1937-38. The majority of farmers covered during the first year were included in the second year's study. The average area of the farm was 12.5 acres, of which the cultivated area was 9.5 acres, 1.8 acres being double cropped. The crops in order of importance were jowar, bajri, groundnut, gram, wheat and potatoes.

The results of the survey showed that the average expenditure per farmer for the year was Rs. 323. This did not include any charge for the interest on investment or any remuneration for the labour of the farmer and his family. Of the total expenditure of Rs. 323, Rs. 27 and Rs. 44 represented payments on account of land revenue and on account of rent paid to landlords per farm respectively. Rs. 97.4 per farm was spent on feeding live-stock. The expenditure on seeds and manure amounted on an average to Rs. 39-6 and Rs. 36-2 per farm respectively. The farm income per farmer during the year amounted to Rs. 88. "But this allowed neither for interest on investment nor for wages for unpaid family labour. If interest is allowed at three per cent per annum on the total capital investment and if the wage of family labour is calculated at Rs. 9 per month per adult worker, the net result for the average farm business is a loss for the year of Rs. 99." The whole result of this survey in Wai Taluka is summarised in the table on the next page, the year of the survey being 1937-38 :—[2]

In this table, the "farm income" is what is left to the farmer after deducting the farm expenses from the farm receipts. Farm expenses do not include interest on the farm investment or the cost of the labour of the farmer and his family. Farm income is thus the total income received

[1] D. R. Gadgil and V. R. Gadgil, "A Survey of Farm Business in Wai Taluka," 1940.

[2] Ibid., Table no. 19, p. 89.

Farm Accounts and Family Budgets

Village	No. of farms	Area operated	Labour units			Total farm receipts	Total farm expense	Farm income	investment Interest at 3%	Family labour income	Cost of family labour	Investment income	Net Profits
			Hired	Family	Total	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Asla	23	296.0	6.95	15.30	22.25	9,452	6,554	2,898	1,776	1,122	1,652	1,246	— 530
2. Bhavdhan	31	385.5	8.34	21.70	30.04	9,464	9,606	—142	2,105	—2,247	2,358	—2,500	—4,605
3. Bhuinj	27	468.5	9.41	26.33	35.74	13,531	9,771	3,760	2,342	1,418	2,844	916	—1,426
4. Bopardi	25	198.8	5.41	21.76	27.17	6.652	6,629	23	897	— 874	2,349	—2,326	—3,223
5. Chandak	25	247.0	4.94	33.17	38.11	7,588	6,369	1,219	2,056	— 837	3.582	—2,363	—4.419
6. Dehgaon	19	290.6	6.94	16.43	23.37	8,681	6,844	1,837	2,367	— 530	1.773	64	—2,303
7. Gulumb	26	340.4	5.17	34.78	39.95	9,119	7,906	1,213	2,297	—1,084	3,758	—2,545	—4,842
8. Kalangwadi	21	215.5	2.47	16.26	18.73	6.686	4.934	1,752	1,461	291	1,755	— 3	—1,464
9. Kavtha	35	616.3	20.11	36.65	56.76	24,958	19.323	5,635	4,106	1529	3 960	1,675	—2,431
10. Kenjal	34	474.9	10.65	48.95	59.60	13,823	11,281	2.342	3.234	— 692	5,283	—2.741	—5,975
11. Kikli	36	369.3	19.80	28.91	48.79	16,519	11,524	4,995	2.752	2,243	3,123	1,872	— 880
12. Lohara	15	175.6	2.76	21.38	24.14	5,447	4,515	932	1,033	— 101	2,295	—1,363	—2,396
13. Menavli	23	166.4	6.45	19.42	25.87	5.324	5,472	—148	980	—1,128	2,097	—2,245	—3,225
14. Ojharda	31	480.2	11.72	20.41	32.13	14.249	11,176	3,073	3.223	— 150	2,166	907	—2,316
15. Panda	17	277.2	4.73	16.26	20.99	7,799	6,087	1.712	1,875	— 163	1,755	— 43	—1,918
16. Panchwad	23	212.5	5.52	23.00	28.52	9,144	6,031	3,113	1,546	1.567	2,484	629	— 917
17. Pasarni	39	377.3	9.79	33.95	43.75	11,243	10,968	275	2.446	—2,171	3,663	—3.388	—5,834
18. Surul	27	343.9	4.26	29.80	34.06	10,171	7,330	2,841	2,429	412	3,222	— 381	—2,810
19. Udtara	22	418.1	9.89	20.34	30.23	13.233	8,960	4,273	3,199	1,074	2,196	2,077	—1,122
20. Virmada	22	210.8	4.89	15.42	20.31	7,194	5,819	1.375	1,573	— 198	1,665	— 290	—1,863
21. Wai	36	557.2	11.77	45.23	57.00	18,910	13,016	5,894	1,995	3.899	4,887	1,007	— 988
Average per farm	—	12.8	0.30	1.00	1.30	411	323	88	82	+6	105	— 17	— 99

by the farmer in respect of his capital investment, the labour of himself and his family and the profits of his business. This is usually considered by the farmers as their income. The measure of "net profits" is more accurate and confirms the view so repeatedly expressed that farming in India is carried on under conditions of a deficit economy. The data collected in Wai Taluka also show the uneconomic character of the small farm. With a holding of less than 7.5 acres, there is little chance of making a farm income and still less of making a profit.

Punjab Survey

The same state of agricultural conditions is revealed in a report by the Board of Economic Enquiry, Punjab, on farm accounts in 1938-39, summarising the accounts of 29 holdings :—[1] (see Table on pp. 226-27)

The Punjab enquiry thus shows that when we take into consideration in farm accounting the rent that would have to be paid for the land owned and the wages of family workers, as well as interest on borrowed capital or on investments by the owners, there is no net income on the working of the farms. What the cultivator lives upon is the income derived from the labour of the permanent workers of his own family, and interest on such investments as he possesses in the share of land owned by himself. It is a deficit economy from a commercial point of view. It is also to be noted that the highest farm income under these conditions is Rs. 72 per year for a family of 4 to 5 souls.

The same story is repeated in South India. A survey of the village of Nerur in Trichinopoly District with a population of 6,200 undertaken by N. S. Subramanian yields the following results :—[2]

Income	Rs.	Expenditure	Rs.
Income from agricultural sources at market prices	3,44,000	Expenses of cultivation (excluding labour and wages paid within the village) . .	1,32,000
Net income from non-agricultural sources, like wages earned outside, salaries of Government servants and pensions .	24,000	Land revenue, irrigation, and allied cesses . .	30,000
		Rent to non-resident owners . .	70,000
		Interest on debt at 8% . .	40,000
		Rentals to Government for toddy and arrack shops, tree taxes and rent to tree owners	12,000
		Minor outgoings . .	4,000
Total income	3,68,000	**Total outgoings** . .	2,88,000

[1] Labh Singh and Ajaib Singh, "Farm Accounts in the Punjab," 1938-39, Board of Economic Enquiry, Punjab, Publication No. 75, 1941.

[2] Congress Political and Economic Studies, No. 2, Study of a South Indian Village, 1936.

Net Income Per Acre held on Four Assumptions

Older Districts	Holdings	Area held (acres)	Capital and land owned, Permanent workers family members		Land owned, Permanent workers family members Capital borrowed		Land taken on ernt, Permanent workers family members, Capital borrowed		Land taken on rent, Permanent workers hired labourers, Capital borrowed	
			Expenditure Rs.	Net Income Rs.	Expenditure Rs.	Net Income Rs.	Expenditure Rs.	Net Income Rs.	Expenditure Rs.	Net Income Rs.
A. Mountainous										
Kangra	Ichhi	6.16	28.11	62.75	28.59	62.27	63.11	27.75	120.13	— 29.27
B. Sub-mountain										
Hoshiarpur	Dholanwal	0 6.9	158,65	9.54	163.19	5.00	200.29	—46.10	340.03	—171.84
„	Rasulpur	5.3c	56.32	41.16	65.83	31.65	82.68	14.80	131.71	— 34.23
C. Central Punjab										
Jullunder	Sargondi	22.14	50.15	18.35	56.27	12.23	69.45	—0.95	90.03	— 21.53
„	Ramunwal	6.69	39.25	29.56	42.26	26.55	58.83	9.98	106.99	— 38.18
„	I. Kalabakra	22.92	41.24	72.63	43.87	70.00	63.98	49.89	83.88	29.99
„	II. „	9.92	54.58	64.41	57.95	61.04	79.79	39.20	103.21	15.78
Ludhiana	Leelan	9.04	38.61	31.18	40.51	29.28	57.93	11.86	72.02	— 2.41
„	Sidhwankhurd	11.31	45.67	57.24	48.72	54.19	70.78	42.13	94.42	18.49
„	Takkhar	6.77	42.70	36.64	44.67	34.67	65.51	13.83	80.72	— 1.38
Amritsar	Doburji	12.20	43.03	36.83	43.84	36.02	57.78	22.08	77.17	2.69
Jhelum	Chak. Shadi	7.08	23.48	15.77	25.41	14.84	38.19	2 06	54.10	— 13.85
„	Pinnanwal	10.76	39.23	—0.25	40.87	—1.89	56.78	—17.80	68.75	— 29.77
„	Chak. Danyal	15.42	19.73	9.71	21.92	7.52	30.42	—0.98	37.11	— 7.67

D. Jamna River Zone:										
Rohtak	Bighan	6.52	65.46	49.98	67.89	47.55	81.93	33.51	110.35	5.09
»	Kheora	16.83	24.63	28.98	26.73	26.88	41.58	12.03	53.61	—
E. South Eastern Dry Tract										
Hissar	Mahyer	20.60	15.28	21.35	16.78	20.85	28.12	9.51	41.95	—4.32
F. South Western Dry Tract:										
Multan	Ashaqpur	13.37	19.72	10.05	21.35	3.42	21.88	7.89	31.88	—2.11
»	Khubbarwal	38.08	18.13	20.39	18.53	19.99	24.00	14.52	30.28	8.24
»	Quasbamaral	26.52	15.64	—0.18	17.26	—1.80	17.33	—1.87	24.66	—9.20
G. Canal Colonies:										
Lyallpur	Chak. 248. RB	27.31	21.30	28.14	22.07	27.37	39.88	9.56	50.84	—1.40
»	Chak. 41 JB	27.43	18.26	36.55	19.07	35.74	35.48	18.33	41.70	13.11
»	Risalewala	721.06	22.23	30.36	22.72	29.87	42.14	10.45	52.30	0.29
Montgomery	Chak. 145/9L	24.75	28.59	17.03	30.00	15.62	45.86	—0.24	60.41	—14.79
Shahpur	Chak. 122/SB	35.50	17.72	24.21	18.21	23.72	30.21	11.72	35.90	6.03
	Averages									
	Older Districts		31.90	28.64	34.09	26.45	46.47	14.07	63.19	—2.65
	Canal Colonies		21.04	26.54	21.87	25.71	37.13	10.45	46.10	1.48
	All Holdings		**28.64**	**28.21**	**30.42**	**26.23**	**43.67**	**12.98**	**58.60**	**—1.41**

Net Income Per Acre held on Four Assumptions

Older Districts	Holdings	Area held (acres)	Capital and land owned, Permanent workers family members		Land owned, Permanent workers family members Capital borrowed		Land taken on rent, Permanent workers family members, Capital borrowed		Land taken on rent, Permanent workers hired labourers, Capital borrowed	
			Expenditure Rs.	Net Income Rs.	Expenditure Rs.	Net Income Rs.	Expenditure Rs.	Net Income Rs.	Expenditure Rs.	Net Income Rs.
A. Mountainous										
Kangra	Ichhi	6.16	28.11	62.75	28.59	62.27	63.11	27.75	120.13	— 29.27
B. Sub-mountain										
Hoshiarpur	Dholanwal	0 ·9	158,65	9.54	163.19	5.00	200.29	—46.10	340.03	—171.84
„	Rasulpur	5.30	56.32	41.16	65.83	31.65	82.68	14.80	131.71	— 34.23
C. Central Punjab										
Jullunder	Sargondi	22.14	50.15	18.35	56.27	12.23	69.45	—0.95	90.03	— 21.53
„	Ramunwal	6.69	39.25	29.56	42.26	26.55	58.83	9.98	106.99	— 38.18
„	I. Kalabakra	22.92	41.24	72.63	43.87	70.00	63.98	49.89	83.88	29.99
„	II. „	9.92	54.58	64.41	57.95	61.04	79.79	39.20	103.21	15.78
Ludhiana	Leelan	9.04	38.61	31.18	40.51	29.28	57.93	11.86	72.02	— 2.41
„	Sidhwankhurd	11.31	45.67	57.24	48.72	54.19	70.78	42.13	94.42	18.49
„	Takkhar	6.77	42.70	36.64	44.67	34.67	65.51	13.83	80.72	— 1.38
Amritsar	Doburji	12.20	43.03	36.83	43.84	36.02	57.78	22.08	77.17	2.69
Jhelum	Chak. Shadi	7.08	23.48	15.77	25.41	14.84	38.19	2.06	54.10	— 13.85
„	Pinnanwal	10.76	39.23	—0.25	40.87	—1.89	56.78	—17.80	68.75	— 29.77
	Chak. Danyal	15.42	19.73	9.71	21.92	7.52	30.42	—0.98	37.11	— 7.67

D. Jamna River Zone:										
Rohtak	Bighan	6.52	65.46	49.98	67.89	47.55	81.93	33.51	110.35	5.09
"	Kheora	16.83	24.63	28.98	26.73	26.88	41.58	12.03	53.61	—
E. South Eastern Dry Tract										
Hissar	Mahyer	20.60	15.28	21.35	16.78	20.85	28.12	9.51	41.95	—4.32
F. South Western Dry Tract:										
Multan	Ashaqpur	13.37	19.72	10.05	21.35	3.42	21.88	7.89	31.88	—2.11
"	Khubbarwal	38.08	18.13	20.39	18.53	19.99	24.00	14.52	30.28	8.24
"	Quasbamaral	26.52	15.64	—0.18	17.26	—1.80	17.33	—1.87	24.66	—9.20
G. Canal Colonies:										
Lyallpur	Chak. 248. RB	27.31	21.30	28.14	22.07	27.37	39.88	9.56	50.84	—1.40
"	Chak. 41 JB	27.43	18.26	36.55	19.07	35.74	35.48	18.33	41.70	13.11
"	Risalewala	721.06	22.23	30.36	22.72	29.87	42.14	10.45	52.30	0.29
Montgomery	Chak. 145/9L	24.75	28.59	17.03	30.00	15.62	45.86	—0.24	60.41	—14.79
Shahpur	Chak. 122/SB	35.50	17.72	24.21	18.21	23.72	30.21	11.72	35.90	6.03
	Averages									
	Older Districts		31.90	28.64	34.09	26.45	46.47	14.07	63.19	—2.65
	Canal Colonies		21.04	26.54	21.87	25.71	37.13	10.45	46.10	1.48
	All Holdings		**28.64**	**28.21**	**30.42**	**26.23**	**43.67**	**12.98**	**58.60**	**—1.41**

The net income of the whole village is thus Rs. 80,000 or less than Rs. 13 per head. The average gross income per village per year is Rs. 38, from which the shares of Government, landlords and money-lenders are to be paid. This gross income represents the wages of the family members who work on the farm and such amount as a prosperous year might bring with stable prices.

Dr. Radhakamal Mukerjee calls attention to a survey,[1] the results of which were made available to him through the courtesy of Dr. R. B. Gupta, Statistician to the U.P. Government. It consisted of an enquiry into the costs and profits of cultivation of 122 cultivators in 13 typical villages in the United Provinces. The enquiry revealed that 28 per cent of the holdings were below the economic size, that 37.7 per cent of the cultivators do not earn any profits, and seek to improve their position by agricultural labour, and that 93 per cent of the families do not even have the bare necessities of life. The following table gives us some details :—

Size of Holding	Number of Cultivators	Percentage	Expenses of cultivation per acre	Gross income per acre	Note income including wages of family labour per acre	Family labour per holding man days (3 women days = 2 man days = 2 child days = 1 man day)
			Rs. as.	Rs. as.	Rs. as.	
Below 3 acres	14	11.5	41 1	40 0	—1 1	150
3-5 „	20	16.4	35 15	36 12	+0 13	184
5-10 „	47	38.5	33 5	35 12	+2 7	267
10-20 „	32	26.5	32 0	37 2	+5 2	358
Over 20 acres	9	7.1	32 5	40 5	+8 0	390
All groups	122	100.0	34 3	37 2	+2 15	274

In an economic enquiry into the incomes of 1,592 families selected from 24 villages of Gokak Taluka in Bombay, Dr. M. N. Desai in an unpublished thesis supplies to us a few balance sheets of individual farms:

Farm No. 1

Area cultivated 12 acres — Crops grown—gram, wheat and jowar, 1938-39

Payments	Rs. as.	Receipts	Rs. as.
Harrowing	5 0	Gram	—
Sowing	15 0	Wheat only fodder	4 0
Hoeing	1 8	Jowar stalks	6 0
Manure	—		
Seeds	8 0	Gross income	12 0
Weeding	0 12	Expenditure	65 4
Rent	35 0		
Total	65 4	Net loss	53 4

[1] Economic Problems of Modern India, Vol. I, p. 117.

The Same Farm 1937-38

	Rs.	as.		Rs.	as.
Expenses approximately the same	65	4	Wheat	54	0
Manure	10	0	Gram	38	8
			Salflower	18	0
			Jowar	10	0
			„ Stalks	9	0
			Chaff	6	0
			Gross income	135	8
			Expenditure	75	4
Total	75	4	Net income	60	4

Farm No. 2

Area cultivated 3 acres Rent Rs. 18 Water supply canals 1926-27

Expenses	Rs.	as.	Receipts	Rs.	as.
Ploughing	24	0	Cotton	102	0
Harrowing	8	0	Jowar	12	0
Hoeing and Sowing	2	6	Castor seeds	5	0
Manure (sheep)	10	8	Jowar stalks	5	0
Seeds	0	12	Cotton „	3	14
Weeding, watering, sowing	3	12			
Embankments	8	0	Gross income	128	14
Irrigation Cess	21	15	Expenditure	97	5
Rent	18	0			
Total	97	5	Net income	31	9

The Same Farm Rent Rs. 30, 1927-28

	Rs.	as.		Rs.	as.
Ploughing	30	0	Maize	168	0
Harrowing	11	0	Cotton	77	8
Ploughing and sowing	9	0	Fodder	6	0
Manure ploughing	48	0	Cotton stalks	4	0
Bringing manure	20	0			
Seeds	1	8			
Carrying manure	2	4			
Watering, weeding, sowing	5	8	Gross income	255	8
Irrigation Cess	15	15	Expenditure	173	3
Rent	30	0			
Total	173	3	Net income	82	5

The Same Farm Rent Rs. 50, 1928-29

	Rs.	as.		Rs.	as.
Ploughing	24	0	Maize	24	0
Harrowing and Sowing	5	0	Chilly	38	0
Manure (sheep)	18	0	Cotton	73	4
Seeds	5	2	Fodder	4	0
Planting, watering, sowing, weeding	8	0	Stalks and Chillies	2	0
Irrigation Cess	19	2	Gross income	141	4
Rent	50	0	Expenditure	130	8
Total	130	8	Net income	10	12

Farm No. 3
Area cultivated one acre Rent Rs. 10, 1938-39

	Rs. as.		Rs. as.
Ploughing and harrowing	16 0	Maize	10 0
Sowing and hoeing ..	3 0	Tur	12 0
Seeds	0 10	Jowar sown at the borders ..	2 0
Labour . .	2 8	Stalks of maize and tur ..	2 0
Manure . ..	10 0	Chaff of tur .	3 0
Irrigation Cess ..	2 0	Gross income	30 0
Rent	10 0	Expenditure ..	44 2
Total	44 2	Net loss ..	14 2

The Same Farm 1937-38

	Rs. as.		Rs. as.
Same Expenses	44 2	Maize	45 0
		Cotton	28 0
		Stalks of Maize .. .	2 0
		Green fodder . ..	2 0
		Gross income ..	77 0
		Expenditure ..	44 2
		Net income ..	32 14[1]

When we look at these accounts, it appears that in every one out of two to three years there has been a loss on working, even on the crude basis on which these accounts are kept, that the net income shown is totally insufficient for a family of 4 to 5 souls and that the cost of labour is calculated at a rate which is ridiculously low, judged even by the standards of a half-starving population.

These conclusions can be confirmed by a consideration of family budgets of agriculturists of five South Indian villages provided in a recent publication.[2] 98 budgets were collected in Vunagatla, 50 in Vadamalaipuram. In other villages a smaller number of budgets was collected. We give below family budgets collected from two out of the five villages studied :—

(1) Vadamalaipuram
Agriculturists

Items	Rent Receivers		Cultivating land holders		Tenants and Labourers	
	Rs. as.	%	Rs. as.	%	Rs. as.	%
Food	639 15	59.1	302 0	63.6	125 15	78.8
Tobacco and Drinks	64 15	6.4	30 13	6.3	8 10	5.0
Fuel and Lighting	36 2	3.2	11 0	3.1	3 2	2.0
Clothing and Footwear	131 2	11.9	38 0	7.4	11 8	7.1
Household utensils	10 0	1.0	4 9	1.0	1 1	1.0
Other items	201 6	18.4	88 11	18.6	9 13	6.1

[1] These tables are obtained from "Life and Living in Rural Karnatak," by M. N. Desai, 1942, being an unpublished thesis. We are indebted to Dr. Desai for allowing us to use some material from his thesis.

[2] Thomas and Ramkrishan, op. cit, pp. 395 *et seq.*

(2) Vunagatla

	Cultivating land holders			Tenants			Labourers		
	Rs.	as.	%	Rs.	as.	%	Rs.	as.	%
Food Tobacco and Drinks	114	0	63	118	8	76	87	12	78
Fuel and Lighting	4	8	3	2	4	2	2	4	2
Clothing and Footwear	28	8	16	14	4	9	12	0	11
Household utensils									
Other items	33	0	18	20	4	13	11	4	9

A striking feature about these budgets is the large proportion spent on food by all classes. As the income rises, the proportion spent on food falls. The working classes spend all their income on the bare necessities of life. These figures do not, moreover, take into account the indebtedness of the agriculturists, nor of the difficulties created by fluctuating prices and uncertainties of the rains.

An enquiry into the economic condition of 145 families in four villages of the Kolaba District was undertaken by Mr. S. R. Deshpande and Dr. G. S. Ghurye and published in the Indian Journal of Economics for April, 1927. The article supplies the following tables showing the average distribution of expenditure on various groups according to income classes :—

Income class	No. of cases	Average no. of persons per family	Food	Fuel and Lighting	Clothing	Rent	Miscellaneous
Rs. 100 and below	22	3.77	76.32	3.44	11.86	.29	8.09
„ 101-200	59	5.34	76.57	3.15	11.30	.19	8.79
„ 201-300	38	5.97	74.02	3.12	11.35	.15	11.36
„ 301-400	13	6.46	76.59	2.16	9.98	—	10.39
Above 400	13	8.61	70.36	2.02	12.44	—	15.80
All incomes	145	5.66	74.53	2.85	11.43	.13	11.06

Actual Annual Expenditure of the Families*

Income class	No. of cases	Average No. of persons per family	Average income	Average expenditure	Food (in Rs. as. ps.)	Clothing	Fuel	Miscellaneous
Rs. 100 and below	22	3.77	81 13	111 2 3	84 18 1 (22.55)	13 2 11 (3.45)	3 13 1	9 0 0 (8.71)
101 - 200	59	5.34	144 6 1	162 9 11	124 8 4 (28.22)	18 6 11 (3.87)	5 1 11	14 4 7 (4.68)
201 - 300	38	5.97	232 12 7	223 14 8	165 11 9 (27.81)	25 6 8 (4.16)	6 13 7	25 7 2 (4.18)
301 - 400	13	6.46	348 14 9	295 3 8	218 7 4 (33.74)	28 2 5 (4.33)	7 6 1	31 2 6 (4.79)
Above 400	13	8.61	613 1 1	504 2 5	354 11 1 (41.23)	63.11 1 (7.31)	10 0 0	76 8 7 (8.33)
All income	145	5.66	218 6 11	212 7 10	159 5 8 (28.4	24 4 8	6 0 11	23 8

*The figures in brackets represent expenditure per head.

These tables reveal the same fact that the larger portion of the total expenditure is devoted to food only. The authors conclude that there are reasons to believe that 56 per cent of the families studied live below the minimum level of subsistence, and that comforts are so few that they may be said to be non-existent.

It will be seen from these studies that the expenditure of the family in different classes increases with the income. This does not mean necessarily that either more or better food is being consumed. These tables suggest either that the higher income groups and better classes spend more on food because the expenditure of the lower groups is not sufficient to secure adequate food or that the higher income groups have a better and more varied diet. It is pointed out, however, that the average cultivator, rich or poor, has the same diet. All the evidence seems to point to the conclusion that the lower income groups live below the subsistence level.

A similar enquiry conducted in the Bhiwandi Taluka, Thana District, in 1938-39 by Dr. Bhagat, into the family budgets of 527 families out of 760 in 32 villages is found to yield similar conclusions. The families were divided into three groups according as (a) they were families possessing or cultivating more than 10 acres of land, (b) such as possess or cultivate at least 5 acres or have some other source of income and (c) the families which are either landless and subsist on labour or cultivate insignificant plots. An analysis of the budgets of these three groups reveals the following results :—[1]

Expenditure per capita after reducing children and females to adult equivalents

	A				B				C				ALL			
	Amount			Percentage	Amount			Percentage	Amount			Percentage	Amount			Percentage
	Rs. as. ps.				Rs. as. ps.				Rs. as. ps.				Rs. as. ps.			
Food	62	0	9	63.3	54	0	8	67.5	45	7	0	71.2	53	3	1	66.5
Clothing	10	15	0	11.2	8	6	9	10.4	5	8	7	8.6	8	2	10	10.2
Medicine	3	7	5	3.6	2	6	9	3.1	1	10	9	2.5	2	8	2	3.2
Religious ceremonies	1	12	7	1.8	1	10	1	2.0	1	7	9	2.4	1	10	8	2.3
Tea, sugar & tobacco	11	15	0	12.2	7	13	5	9.6	5	8	4	8.6	8	2	4	10.2
Miscellaneous	7	11	8	7.9	9	0	9	7.4	4	4	0	6.7	6	0	1	7.6
Total	97	14	5	100.0	86	6	5	100.0	64	14	5	100.0	79	11	2	100.0

[1] M. G. Bhagat, op. cit. p. 176.

This table corroborates our conclusion based on the cumulative evidence supplied in the foregoing pages, that the majority of our cultivators live below a subsistence standard.

Thus, whilst some information has been made available through a study of farm accounts and family budgets, there is room for a more careful collection of data with regard to the size of farms, the best combination of the factors of production that can give the highest returns, the correlation of prices with home production, exports and imports, and the actual distribution of farm incomes so that on the foundation of these well-digested statistical material we may build up the future of Indian agriculture.

CHAPTER XIV

LAND TENURES AND LAND REVENUE

Early History

In a predominantly agricultural country like India, the problem of land tenures and land revenue are of primary importance in a discussion of economic problems. India with her variety of resources and geographical conditions presents a variety of land tenures, which have been complicated by historical causes.

In the Hindu period, the land belonged to the village community and was never regarded as the property of the king. The traditional or customary share of the king was fixed at one-sixth of the produce which in times of emergency was raised to one-fourth. The State had merely a right to a share always paid in kind. Under the Moslems, the existing tenures and tax system were adopted with some modifications, and the share of the Government was raised to one-third. Under Akbar, the land revenue was fixed for a period of years payable in cash. To collect the revenue in a regular manner, headmen or tax farmers were appointed ; and by the middle of the 17th century, zamindars, assignees and farmers of land taxes had greatly strengthened their position—a position which became hereditary in many cases due to the weakness of the central government.

When the East India Company acquired political control they took over the traditional system ; but the whole character of the land system was transformed by them through the introduction of British legal con-

cepts in India. It was assumed that the State was the supreme landlord. In the place of the traditional share of the Government in the produce paid by the village communities as a whole, there was introduced a system of fixed payments in cash assessed on land which had no reference to good or bad harvest. In most cases the assessment was individual, whether levied directly on the cultivator or on landlords appointed by the State. The land revenue was considered as a rent rather than a tax. Under British rule, the system of assessing and collecting revenue has varied according to the varying circumstances of different provinces and to suit administrative convenience.

The principle underlying the land revenue settlement to-day is that the Government is the supreme landlord and the revenue derived from the land is equivalent to rent. Though this statement has been challenged, in practice it would appear to be a correct description of the relation between the Government and the cultivator. The official term for the method by which the land revenue is determined is "settlement".

Land tenures in India may be defined as the the system of rights and responsibilities of individuals owning or cultivating the land, vis-à-vis the State, regarding the payment of revenue. The principal land tenures in India may be classified (1) on the basis of the relation between the holder and the Government as Zamindari and Ryotwari; (2) on the basis of the duration of the tenure as permanent and temporary. The Zamindari system makes the zamindar the holder of all lands from Government. He is responsible for the land revenue, the land being cultivated by tenants. Under the Ryotwari system, the land is held directly by the ryot or occupant, who is in most cases individually responsible to Government for land revenue. The Zamindari Settlement is ordinarily known as the Permanent Settlement, though there is another type known as the Temporary Zamindari system. The Permanent Settlement was introduced in Bengal by Lord Cornwallis in 1793. The system was later extended to parts of United Provinces and Madras. The Permanent Settlement covers 19 per cent of the total area of British India or roughly 120 million acres. About 30 per cent of the total area is covered by the Temporary Zamindari system. The latter type of zamindars are mostly to be found in the United Provinces, the Central Provinces, in the Punjab and in parts of Bengal and Bombay. A variant of Temporary Zamindari established in C.P. is known as Malguzari in which the malguzars or patels who were tax farmers under the Marathas were now regarded as proprietors. The Ryotwari Settlements cover 51 per cent of the area in British India.

The Ryotwari System

About 285 million acres in British India are held under the Ryotwari Tenure. It prevails in Bombay, in most of Madras, in Berar, Sind and Assam. The Ryotwari Tenure is characterised by the following features : (a) The principle of the State ownership of all lands including waste lands underlies the system. (b) The holder of the land is a mere occupant, having the right to use, transfer, and relinquish the occupancy of the holding. He holds the land so long as he pays the land revenue. The assessment is a charge upon the crop, and the arrears of [illegible] years are a first charge on the holding. The revenue is regarded [illegible] rent and not as a tax. as a tax would imply the private ownership [illegible] land. (c) Every holder of land is individually responsible for the payment of land revenue. (d) The assessment is fixed for a period of 20 or 30 years and is periodically revised under a survey settlement.

There are two kinds of Ryotwari holdings : (1) those in which each individual occupant holds directly from Government, and (2) those in which the land is held by village communities, the heads of the village being responsible for the payment of revenue on the whole village area. In Madras, Assam and Bombay, the Ryotwari tenure is on the individual basis. The second type of Ryotwari holdings prevail in parts of North India. It is called Mahalwari system.

The individual being directly assessed, the village community lost its economic function. The peasant was given a proprietory right in the land which now became saleable and mortgageable for cash. This happened at a time when price economy was already making a headway in India. The assessment was fixed on the basis of land and not variable according to the yearly produce, payable in cash at fixed periods. As a cumulative effect of all these factors, the importance of the money-lender in the rural economy was increased.

Even where groups of owners or village communities were recognised as proprietors of land, the results were the same. But in this case also, the collective responsibility was only in name. There was a trend towards individual assessments, and in practice the co-proprietors were treated as individual proprietors.[1] The periodic revision of settlement made possible the appropriation of a larger and larger share of agricultural income.

The Permanent Settlement

In Bengal due to a confusion in the minds of early British rulers between the Zamindars and the English landlords, the Zamindars—the

[1] R. Mukerjee, "Land Problems in India," 1933, p. 328.

former tax farmers or revenue collecting officials of the Moghuls—were recognised practically as the owners of the land—though in reality they were land holders and not proprietors—and were made responsible for the payment of a revenue fixed in perpetuity. As Sir Richard Temple says, the Permanent Settlement in Bengal was "a measure which was effected to naturalise the landed institutions of England among the natives of Bengal."[1] The amount of revenue exacted from the tenants was high; in case of default the estates were sold to speculators. When the settlement was first made, the assessment of the zamindar was fixed roughly at ten-elevenths of what the zamindar received in rents from the ryots. The remaining one-eleventh was regarded as a return for his trouble. Later history indicates that while the settlement of the zamindars remained unaltered, they went on increasing the rent from the tenants. With the cultivation of waste land and rise in the price of agricultural products, the rents recovered increased, whilst the earnings of landlords were exempt from the operation of the income-tax.

One result of the permanent revenue settlement was the creation of a class of zamindars with vested interests. They became the proprietors of big estates which never belonged to them, for they were merely the hereditary tax farmers or rent collectors. Another result was the loss to the ryot of his rights to a customary rent and a permanent tenure. The zamindars, though they could be sold up in case of default, soon degenerated into a selfish parasitic class of absentee landlords, and the Government lost an expanding revenue due to the permanent character of the settlement. It also increased rack-renting. One more consequence of the Permanent Settlement in Bengal has been the subdivision of rights in land. The zamindars leased out their interests, and the middlemen leased out in turn, creating a long chain of rent receivers and rent payers who intervene between the State and the actual cultivators. In 1819, "the absolute subjection of the cultivators of the soils to the discretion of the zemindars" was regretfully admitted, and yet no steps to protect the tenants were taken till 1859. Thus, "feudalism on the one hand, serfdom on the other, were the principal characteristics of the land system of Bengal."

Effects of the Permanent Settlement and the Ryotwari System

Thus, under British rule, there was a complete transformation of the land system by which the State became the supreme landlord and the ...y was reduced to the status of tenants. The landlords under ...anent Settlement derived their right from the State and were

[1] ... and Events of My Time in India," p., 30,

liable to dispossession in case of default. The silent but revolutionary change made by the introduction of the Zamindari system, and the recognition of only a limited interest of the cultivator in the Ryotwari areas, neither benefited the cultivators nor the Government. In the permanently and temporarily settled areas the zamindar's share was allowed to grow. He was allowed to extort as much as he could by way of rent, while in the temporarily settled areas the State increased its share from the zamindars to 50 per cent of the latter's collection at the beginning of every revision.

In both the cases, the effect has been the decay of the village community and the peasantry. The traditional relationship between the peasantry and the artisans, linked into a corporate unit like the village community, has been upset. "The creation of landlordism, the conversion of occupants into full proprietors and under-proprietors and the emphasis on the distinction between the superior proprietors and under-proprietors," have been responsible for the deterioration of the economic position of the ryots and for the growth of a class of capitalistic rent receiving intermediaries. The system of individual assessment and the abrogation of the common rights have led to an aggravation of our agricultural problem.[1]

Land Revenue Commission, Bengal (1938-40)

A Land Revenue Commission was appointed in Bengal in 1938, with Sir Francis Floud as Chairman to examine the land revenue system with special reference to the Permanent Settlement. A majority of the Commission after pointing out the defects of the Zamindari system expressed themselves in favour of abolishing the system. They pointed out (1) that it has deprived Government of the share in the increment of the value of land due to increase in population and extension of cultivation ; (2) that it has involved Government in the loss of revenue from minerals and fisheries ; (3) that it has deprived Government of intimate knowledge of rural conditions such as the Ryotwari system affords ; (4) that it has imposed on the province an iron framework which has had the effect of stifling initiative and enterprise of all classes ; (5) that it has encouraged an excessive amount of sub-infeudation, creating a number

[1] R. Mukerjee, op. cit. p. 53. The Simon Commission refers to the "gross inequalities which prevail in the distribution of taxation." "A poor cultivator who not only pays to the State a substantial portion of his income from land but also bears the burden of the duties on sugar, kerosene oil, salt and other articles of general consumption, seems to receive very different treatment from the big Zemindar or landholder in areas where permanent settlement prevails, who owns extensive estates for which he may pay to the State a merely nominal charge fixed over a century ago and declared to be unalterable for ever, while his agricultural income is totally exempt from income tax." (Report of the Indian Statutory Commission, 1930, Vol. I).

of intermediate interests between the zamindar and the actual cultivator which in some districts has reached fantastic proportions. They quote in their support the memorandum of the Government of India on the land revenue policy in 1902. The memorandum referred to the "evils of absenteeism, of management of estates by unsympathetic agents, and unhappy relations between landlord and tenant and of the multiplication of tenure holders or middlemen between the zamindar and the cultivator." The Permanent Settlement was described in the Memorandum as a system of agrarian tenure "which is not supported by the experience of any civilised country. which is not justified by the single great experiment that has been made in India, and was found in the latter case to place the tenant so unreservedly at the mercy of the landlord that the State has been compelled to employ for his protection a more stringent measure of legislation than has been found necessary in temporarily settled areas."[1]

The majority of the Commission were definitely of the opinion that no other solution than State acquisition will be adequate to remedy the defects of the present land system. "The present system," they say, "ought not to remain unaltered," and that "there should be some modification of the settlement." They maintain that the Permanent Settlement and the Zamindari system should be replaced by a Ryotwari system. "Whatever may have been the justification for the Permanent Settlement in 1793, it is no longer suited to the conditions of the present time. A majority of the Commisson have also come to the conclusion that the Zamindari system has developed so many defects that it has ceased to serve any national interest. No half measures will satisfactorily remedy its defects. Provided that a practicable scheme can be devised to acquire the interests of all classes of rent receivers on reasonable terms, the policy should be to aim at bringing the actual cultivators into the position of tenants holding directly under Government."[2]

Legislation on the basis of the report has already been undertaken in Bengal, though it may take some time yet before the recommendations of the Commission are finally embodied into law. It is in itself significant that under Provincial Autonomy, the leaders of thought and responsible statesmen should be prepared in a spirit of free enquiry to examine into the foundations of long established economic institutions.

Landlords and Middlemen

The increase of middlemen is not confined to the permanently and temporarily settled tracts. About 51 per cent of the lands in British India,

[1] Land Revenue Commission Report, Bengal, Vol. I, 1940, p. 36.
[2] *Ibid.*, p. 42.

as we have stated, are held under the Ryotwari system. In the remaining 49 per cent, there are intermediaries between the cultivators and the State. Even in the Ryotwari tracts, there has been a large increase in the number of tenants and sub-tenants. Owing to the practice of subletting, 30 per cent of the lands in Bombay and Madras Provinces are not cultivated by the tenants themselves. So also in the Punjab, the number of rent receivers has increased recently from six to ten million. In the United Provinces, the rent receivers have increased by 46 per cent between 1891 and 1921 and during the same period in the Central Provinces, there was a 50 per cent increase. Referring to the Permanent Settlement of Bengal, the Simon Commisison observe : "In some districts the sub-infeudation has grown to astonishing proportions, as many as 50 or more intermediary interests having been created between the zamindars at the top and the actual cultivator at the bottom."[1]

The increase in sub-infeudation has created an army of rent receivers who are all supported by the labour of the cultivator. It "has become an incubus on the working agricultural population, which finds no justification in the performance of any material service, so far as agricultural improvements are concerned, and fails to provide for any effective means for the development of the resources of the land."[2] Even the Government is not induced to spend money for agricultural improvement, because the resulting benefits might be appropriated by these middlemen. Along with the growth of sub-infeudation, there is progressive fragmentation of proprietory interests in the land due to laws of succession and this results in increasing the complexity of the land system.

Absentee landlordism, which is growing not only in the Zamindari system but also in the Ryotwari system, leads to inefficient management, and ruin of farming in the long run. There is an increase of non-cultivating land owners everywhere, even in the strongholds of cultivating proprietorship. This encroachment of landlordism has brought in its wake all the evils of spendthrifts and inequitous land management.[3]

The tendency towards expropriation of the peasantry by money-lenders and capitalists has its serious reactions in the political field. The growing consciousness of their rights on the part of the peasantry has resulted in the formation of the All-India Kisan Sabhas, and annual conferences have been held since 1936 for the ventilation of their grievances and the amelioration of their condition. Moreover, under the new constitution, political parties supporting their claims have inspired fresh

[1] Simon Commission Report, Vol. I, p. 340.
[2] Floud Commission Report, p. 37.
[3] R. Mukerjee, op. cit. p. 148.

hopes in the hitherto depressed agricultural classes. On the other hand, in 1938, the first All-India Landholders' Conference was held with a view to set up an independent organisation. In the Constitution of 1935, landlords are given special representation in Provincial as well as Central legislatures. But the position of the majority of small cultivators, with their uneconomic holdings, and of sub-tenants and unprotected tenants is very nearly the same as that of labourers and it is difficult at times to distinguish between them. As the Madras Banking Enquiry Committee observe, "We find it difficult to draw a clear line between cultivation by farm servants and sub-letting. Sub-letting is rarely on a money rental. It is commonly on a sharing system, the landlord getting 40 to 60 per cent. even 80 per cent of the yield and the tenant the rest. The tenant commonly goes on from year to year eking out a precarious living on such terms, borrowing from the landlord, being supplied by him with seed, cattle and implements. The farm servant, on the other hand, uses the landlord's seed, cattle and implements gets advances in cash from time to time for petty requirements and is paid from the harvest either a lump sum of grain or proportion of the yield. The farm servant may in some cases be paid a little cash as well as a fixed amount of grain. The tenant may cultivate with his own stock and implements, but there is in practice no very clear line between the two ; and when the landlord is an absentee, it is not always obvious whether the actual cultivator is a farmer or a sub-tenant."[1] Even in the Punjab, the so-called land of peasant proprietors, only two-fifths of land is cultivated by owners, while the rest is being cultivated by tenants of different kinds. During the last 45 years there has been an increase in the number of cultivators who are tenants at will, i.e., tenants from year to year.[2]

Tenancy Legislation

Recent events connected with the no rent campaigns on the part of tenants in different provinces and the rumblings about the repudiation of private debts have led to more tenancy legislation for the amelioration of the tenants. The Bihar Tenancy Acts of 1937 and 1938 cancel all enhancements of rents between 1911 and 1936, reduce rents in the same period in proportion to fall in prices, abolish the system of recovery of rents in kind, and provide for total or partial remission of rent where the soil has deteriorated due to deposit of sand or other causes. Similarly, the Bombay Small Holders Relief Act, 1938, prevents landlords from

[1] Madras Provincial Banking Enquiry Report, 1930, pp. 14-15.
[2] See "Tenant Cultivation in the Punjab," by T. Jain, in *Eastern Economist*, December 1st, 1944.

evicting a tenant who has been in possession from 1st January, 1932, provided the tenant had paid the rent due upto June, 1938, and was willing to hold thereafter on the old terms. The Bengal Tenancy Act, 1938, reduces the rate of interest on rent arrears to 6¼ per cent, withdraws the landlord's right of recovering rent arrears by auctioning lands, and suspends enhancement of rents for a period of ten years. The Bombay Land Revenue Code (Amendment) Act of 1939 passed under the Congress regime empowers the Government to vary the assessment in accordance with the prices of agricultural produce in deserving cases, and is expected to give relief to those areas where the existing assessment is very high.

These protective measures meant for the actual cultivators of the soil have been partially rendered ineffective, due to the presence of intermediaries. Many of them remain unprotected tenants or swell the ranks of the landless labourers. As the Floud Commission observe, "it is true that the successive provisions of the Tenancy Acts have endowed the raiyats with the practical ownership of the land. But a large and increasing proportion of the actual cultivators have no part of the elements of ownership, no protection against excessive rents and no security of tenure."[1]

Land Revenue Administration

The general features of the land revenue administration whether Zamindari or Ryotwari, may be indicated under three heads : (a) The preparation of the cadastral record, (b) the assessment of the revenue, and (c) the collection of the revenue so assessed. The revenue is levied by means of a cash demand on each unit assessed. Under the Zamindari system, the demand is assessed on the village or estate owned by a single proprietor or by a body of co-sharers. The demand is a definite sum payable in perpetuity or for a fixed term of years, during which the whole of any increased profits which may accrue is enjoyed by the individual landlord. Under the Ryotwari system, the assessment is on each field as demarcated by the survey. The revenue rates for different classes of land are settled for a term of years. Except in Bombay, where the assessment is not fixed in terms of the produce at all, the revenue throughout India is assessed so as to represent a share of the "net produce". The meaning of the term "net produce" varies in different parts of India. In North India and in the Central Provinces, it represents the rent, or that portion of the gross produce which would, if the land were rented, be taken by the landlord. In Madras, on the other hand, where Government deals directly with the cultivator, the net produce is the difference

[1] Report, p. 39.

between the assumed value of the gross produce and an estimate of the cost of production. For India as a whole, the calculated share of the net "assets" claimed by the Government is approximately one-half. Various provisions are made in the different provinces for exempting from assessment, either permanently or for a term of years, increases of income due to improvements—such as wells, tanks and embankments—made by private individuals and for the relief from over-assessment of holdings which have suffered deterioration since they were assessed.

Collection of Land Revenue

Owing to the prevalent poverty of the agricultural classes and also owing to the practice of obtaining two main crops during the year, the land revenue is generally recovered not by a single annual payment, but in instalments, the dates and amounts of which are fixed according to local conditions. For the recovery of sums not paid by due date, the Government has extensive powers conferred by law including compulsory attachment and sale. The Government of India in a resolution dated 25th March, 1905, laid down the principles to be followed by local governments in the matter of suspension or remission of land revenue. It was recognised that whilst it was legitimate to expect the cultivator to take the bad with the good in ordinary years, it was hopeless to expect him to be able to meet the fixed demand in years when the crops are barely sufficient for his own sustenance. Payments were not to be enforced on a cultivator of ordinary prudence if they impaired his future solvency in order to meet them. The resolution endorsed the view of the Famine Commission of 1901, that "relief will not ordinarily be required when there is half a normal crop." Total relief was to be granted where the crop was less than a quarter of the normal. No relief was to be ordinarily given to the revenue payer of the landlord class, unless it could be ensured by legislation or otherwise that a proportionate share of the relief was extended to the actual cultivators of the soil.

The statement that the land revenue under the Ryotwari system is not an appropriation of the unearned increment of the soil, but an encroachment on the bare minimum of subsistence, has a considerable element of truth. Where a large proportion of agricultural holdings are too small to be regarded as economic, the cultivators cannot afford the burden of the land revenue, and are compelled to resort to the money-lender to make good the Government demand. The Famine Commission of 1901 observed with regard to the cultivator : "In good years he has nothing to hope for except a bare subsistence ; in bad years he falls back on public charity."

The manner and time of collection of the land revenue create added difficulty for the cultivator. Usually he has no savings. If there is a failure of crops, he has to borrow and pay the Government demand. Even with a normal crop, he has to pay the land revenue in two instalments— one before the 15th January and the other before the 15th March. He must have money at this time. Though he may have crop ready for sale, he cannot sell owing to slump in the market, because all the ryots are out for sale at the same time. He has to forego his profits or to borrow from the village sahukar.

A radical reform of the land revenue policy may be regarded as an essential condition for the improvement and development of agriculture in India. All talk about reducing or wiping off agricultural indebtedness is futile in the absence of a radical change in this direction. The State demand should only be levied on holdings which are economic, in whatever way the term "economic holding" be defined. The collection should be on an elastic basis, leaving a sufficient margin to the cultivator. The Taxation Enquiry Committee observed in this connection : "The income out of which the assessment is to be paid fluctuates enormously with the vagaries of the monsoon and other causes. Some relief is given in many provinces by the partial or complete suspension or remission of the assessment, when there is a failure of crop. But it is undoubtedly the fact that the inelasticity of the land revenue drives a large number of people to the money-lender during bad seasons." Whatever loss of revenue such measures may involve to the Government, it will be more than made up by the resulting material advance in the standard of living of the people. It may also suggested that until a complete redistribution of land takes place, the poorest cultivators should be exempted altogether from the payment of the land revenue.

Incidence of Land Revenue

The incidence of the revenue charges in India varies according to the nature of the settlement, the class of tenure, and the type of holding. Under the Permanent Settlement, Bengal obtained a total land revenue of Rs. 3,14,00,000 in 1937-38. Under Temporary Settlements, 50 per cent of the rental in the case of the Zamindari land is regarded as a maximum demand. In regard to Ryotwari tracts, it is difficult to give any figure that would be generally representative of the Government's share. Forty years ago, the Government of India were invited in an influentially signed memorial to fix one-fifth of the gross produce as the Government's maximum demand. In reply to this memorial and other representations, the Government of India issued a resolution in 1905 in defence of their Land

Revenue policy, which asserted that "under the existing practice the Government is already taking much less in revenue than it is now invited to exact." This Resolution is still the authoritative exposition of the principles controlling the Land Revenue policy of the Government of India. The Resolution embodied the following principles: (1) In Zamindari tracts the standard of 50 per cent of the assets is more often departed from on the side of deficiency than excess. (2) The State does not hesitate to legislate in the interest of the tenants in the Zamindari tracts against oppression by landlords. (3) In Ryotwari tracts the policy of long term settlements is being extended. (4) Local taxation is neither immoderate nor burdensome. (5) Over-assessment is not a general or widespread source of poverty and cannot be regarded as a contributory cause of famine.

It may be safely maintained that there has been a continuous rise in land revenue, and that its incidence tends to be inequitable. Dr. Mann has shown the increase in revenue of a Deccan village from Rs. 889 in 1829-30 to Rs. 1,660 in 1914-15.[1] According to Radhakamal Mukerjee, "In Madras, Bombay and the U.P. in particular, assessments have gone up by leaps and bounds."[2] Even if prices go up, small cultivators are hardly in a position to benefit, as their produce is practically mortgaged to the sahukar who advances him money for seeds, etc. Moreover, prices fluctuate, but rent and revenue payments are relatively inelastic. After a comparison of increase in land revenue with the index number of agricultural income per head, Dr. Mukerjee concludes: "While the agricultural income during three decades increased roughly by 30, 60 and 23 per cent, the land revenue increased by 57, 22.6 and 15.5 per cent in the U.P., Madras and Bombay respectively. Such a large increase of land revenue coupled with its commutation in cash and its collection at harvest time has worked very unfavourably on the economic condition of cultivators of uneconomic holdings who form the majority in these provinces."[3]

In Bengal the land revenue in 1764-65 was £811,000 which was increased to £1,470,000 in 1,470,000 in 1765-6. Under the Permanent Settlement it was raised to £3,000,000 in 1793.[4] The total land revenue increased from £15.3 million in 1857-8 to £20 million in 1911-12 and was 23 million in 1936-37. There has been a tendency to increase assessment at each revision in the Ryotwari areas and in Bardoli as a result of the 'Satyagrah' movement by the peasants against excessive assessment, an official enquiry was undertaken

[1] "Land and Labour in a Deccan Village," 1917, pp. 42-43.
[2] Op. cit. p. 206.
[3] *Ibid.*, p. 345.
[4] Minute of Mr. Shore, App. I quoted by R. C. Dutt, "Economic History of British India," p. 85.

which "established to the satisfaction of the Government of Bombay the fact that the assessment was altogether excessive."[1] Though in some cases, the incidence may have been less, the inelastic nature of the time of payment and the rigidity of assessment are also responsible for deterioration in the economic condition of the ryots.

The table given on the next page may be of interest as showing the incidence of land revenue in some provinces :—[2]

In spite of the Government of India resolution of 1905, we feel inclined to observe that the land revenue system is partially responsible for the defective cultivation of land in India. The Taxation Enquiry Committee observed that it "drives a large number of people to the money-lender during bad seasons"; and it is responsible for the scarcity of capital which results from cutting down the narrow margin between the net produce of the cultivator and the minimum of subsistence. There could be no more trenchant criticism of the Land Revenue System than the verdict of the Taxation Enquiry Committee.[3]

Concluding Remarks

Thus in this country, the exacting demands of the State are added on to the demands of middlemen and absentee landlords with no interest in the improvement of the land. Modern landlordism in India is a vested interest, like the survival of feudalism in 18th century Europe. But in India, it is not so much the survival of earlier institutions as a product of mistaken legislation. The landed magnates, whether the Zamindars of Bengal or the Talukdars of Oudh or the large landowners of the Canal Colonies in the Punjab, have neglected their duties towards the ryots, done very little towards the improvement of the land, and contributed by their indifference and neglect to the growing impoverishment of the agricultural classes.

The land tenures of India reveal an extremely unsatisfactory condition with regard to the relations between landlord and tenants. Palliative measures like tendency laws cannot remove the evils connected with the irresponsible absentee landlordism, that has come into existence under the present system. "The landlords have encroached upon and restricted rights in the village commons, neglected their duties towards irrigation, levied illegal cesses, and displayed little practical interest in the improve-

[1] Moreland, "Peasants, Landholders and the State" in 'Modern India' 1932, p. 166.

[2] Compiled from Statistical Abstracts of British India.

[3] Report of the Taxation Enquiry Committee, pp. 77-78.

Province	Incidence of Land Revenue Assessment							
	Per acre of cultivated area				Per head of population			
	1901	1911	1926	1939	1901	1911	1926	1939
	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.	Rs. as ps	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.	Rs. as. ps.
Bihar and Orissa :								
Permanent Settlement	—	0 8 0	0 8 0	0 7 0	—	0 8 0	0 8 0	0 6 0
Temporary „	—	1 1 0	0 12 0	0 14 0	—	0 8 0	0 8 0	0 6 0
Bengal :								
Permanent Settlement	0 12 0	0 15 0	1 4 0	1 4 0	—	0 11 0	0 10 0	0 12 0
Temporary „	1 8 0	1 12 0	2 0 0	3 4 0	—	0 11 0	0 10 0	0 12 0
Oudh :								
Temporary Settlement	1 14 0	1 0 0	2 1 0	1 15 0	1 7 0	1 8 0	2 4 0	1 9 0
Permanent „	1 1 0	1 1 0	1 9 0	1 6 0	1 4 0	1 5 0	1 1 0	1 15 0
Punjab :	1 1 0	1 4 0	2 0 0	1 15 0	—	—	—	—
Bombay :								
Ryotwari	1 5 0	1 10 0	1 8 0	1 11 0	1 8 0	2 8 0	2 8 0	1 15 0
Zamindari	1 14 0	1 14 0	2 0 0	4 0 0	1 0 0	1 4 0	1 5 0	0 12 0
Madras :								
Ryotwari	1 5 0	1 8 0	1 9 0	2 8 0	1 13 0	1 14 0	1 15 0	1 15 0
Zamindari	—	0 15 0	0 15 0	1 6 0	0 11 0	0 12 0	0 12 0	0 14 0

ment of the conditions of the tenants."[1] Relations have become more strained with increasing sub-infeudation, a greater gulf has been created between the landholder and the actual cultivators. The increase of middlemen everywhere as a result of sub-letting has lowered the economic status of the ryot. Pending the complete liquidation of these parasitic middlemen and landlords, better relations between landlords and tenants can only be established, if rents are reduced to such an extent that the cultivator is left with an adequate surplus and the landlord ceases to be a rent receiver and is transformed into a producer of agricultural wealth.

There is also a need of improving the relations between the landholders and the State. To-day, the State is regarded as an agency only interested in exacting the assessed revenue, so far as the cultivators are concerned. With the increasing pressure of debt, and the size of the holding becoming more and more uneconomic, whilst the assessment demands show no signs of abating, there is a growing feeling of hostility to the State. This feeling is aggravated by the increasing dispossession of the peasantry by moneylenders and capitalist investors in land. It is not to be wondered at that all this has led the peasantry to enter with alacrity into the "no rent" campaign. The social and political crisis that looms in the near future might perhaps be averted by a total exemption from the payment of land revenue of all those whose agricultural income is below a certain minimum. The Punjab Land Revenue Committee decided against any exemption, evidently on grounds of loss of revenue. But a loss of revenue is a subsidiary consideration, when we remember that the body politic can justify its claim to existence to the extent to which it promotes the well-being of its members.

The peasantry to-day is caught within the pincers of rack-renting on the one hand and mounting debts on the other. We shall see later on how in the industrial sphere, finance capitalism and the concentration of direction and control of industries in the hands of a few tend to the creation of an industrial proletariat side by side with the agricultural proletariat. The growth of this vast multitude of the "have-nots", supplemented by a rapidly increasing population, is symptomatic of a serious threat to social and economic stability, which may at any time burst into revolution.

[1] Cf. "The landlord has become a rent receiver rather than wealth producer, having ceased to play his old and honourable part in the agricultural combination. To-day he neither supplies agricultural capital nor controls farming operations. Below him has developed a class of intermediaries, who have profited from the complexities of the present land system and make the difficult position of the actual cultivator still more precarious. This is no criticism but a summary of facts." R. Mukerjee, op. p. 361.

The Indian cultivator, ousted from his land, can legitimately ask for a restoration of his land, though the landed interest will clamour against such a change as revolutionary. The ryot was expropriated without compensation and left to the mercy of the landlord and the moneylender. He was converted into a serf working on land on starvation wages. An expropriation of the Zamindars and the restoration of the ryots to their original status would be a less revolutionary and a healthier change than the introduction of the Permanent Settlement was in 1793.

A peasantry attached to the soil, struggling with the uncertainties of the rainfall and a climate that saps their energy, which cannot read an account or write a receipt, faced with a depression like that which began in 1929, roused by promises of political parties and agitators, cultivating strips of land which do not yield enough for subsistence, may be infuriated into an attitude of hostility which may pass into open rebellion against the landowners. Such rebellion may be put down by force aided by the Government. Legislation may be at the best a palliative. There are also not wanting to-day men who would be and are opposed to a radical change in the existing system of land tenure, men who believe that the landlord far from being an anachronism has a useful function to perform. All that we need to urge is that the agricultural prosperity of India is the foundation of the prosperity of the people as a whole. Flood and famine, falling prices and rack-renting by landlords, poverty and indebtedness marked the history of the last hundred years of Indian agriculture. No reform would be too radical, no measures too revolutionary, no plans too costly that result in the emergence of a contented and happy rural population.

CHAPTER XV

THE AGRICULTURAL PROLETARIAT

The Famine Commission of 1880 struck one of the earliest notes of warning about the growth of a surplus population on the soil, the landless labourers who live a half-starved existence in the villages, finding employment for a few months in the year, or sometimes none at all. The growth of this class may be accounted for by the increase of absentee landlords, by the transfer of land from the hands of cultivators into the hands of their creditors, by the displacement of village crafts and industries due to the spread and use of machine-made products, by the gradual transformation of the old village economy resting on custom and payment in kind into a price economy based on contract. Every circum-

stance which has weakened the position of the small holder, as Radhakamal Mukerjee observes, has increased the supply of agricultural labourers—"the loss of common rights in the rural economy, the disuse of collective enterprise, the subdivision of holdings, the multiplication of rent receivers, free mortgaging and transfer of land, and the decline of cottage industries."[1] The fractionalisation of land very often compels the cultivator to supplement his meagre earnings by working on the farms of others. In a normal decade, when there are no famines or epidemics, the landless labourers tend to increase faster than the rest of the rural population.

In Madras, for every thousand of agricultural population the non-cultivating classes numbered 77 in 1921, as compared with 20 in 1901. The following table shows the increasing number of absentee landlords and proletariat per 1000 persons engaged in cultivation in Madras :—[2]

	1901	1911	1921	1931
Non-working landlords	19	23	49	34
Non-working tenants	1	4	28	16
Working landlords	484	426	381	390
Woking tenants	151	207	225	120
Proletariat	345	340	317	429

We get the following returns from the Bengal Census Report :—

	1921	1931	Percentage increase or decrease
	(in 000's)		
Non-cultivating landlords or rent receivers	390	634	+62
Cultivating owners and tenants	9,275	6,041	—35
Proletariat	1,805	2,719	+50

The following table indicates the growth of agricultural proletariat :—[3]

	1911	1921	1931
		(in 000's)	
Landlords	2,845	3,727	3,257
Cultivators	71,096	74,665	61,180
Agricultural Labourers	25,879	21,676[4]	31,480
Others (market gardeners, cattle raisers, foresters etc.)	5,196	4,608	6,536

[1] Op. cit. p. 215.
[2] P. P. Pillai, "Economic Conditions in India," 1925, p. 114 (for figures from 1901 to 1921) and Census Report for Madras, 1931, p. 198
[3] Statistical Abstract of British India, 1915 onwards and Abstract of Tables, 1911 census.
[4] The fall in numbers between 1911 and 1921 was due to influenza and other epidemics.

In the decade 1921-31, the proportion of agricultural labourers to cultivators has increased at a rapid rate as indicated by the following table :—[1]

	Workers—farm servants plus field labourers	Ordinary cultivators	Principal occupation—Agricultural labour	Actual workers, cultivating owners plus tenant cultivators
Total figures	21,676,107	74,664,886	24,925,357	61,180,004
Ratio	291	1,000	407	1,000

In spite of the change in classification adopted in 1931 Census, which gives us an apparent decline in the agricultural population, these figures reveal the tendency to an increasing landless population. Writing in a minute to the Floud Commission Report, Dr. Radha Kumud Mukerjee observes, "Bengal's total population amounts to a little over 5 crores. It would appear that of this total population only about 137 lakhs are registered as 'principal earners', whose 'working dependants' number about 7 lakhs. This means that 71 per cent of Bengal's total population do not earn their livelihood and may be taken to be unemployed."[2] In almost all provinces, there has been a decline in cultivating landowners. Even in the Punjab, along with the concentration of land in the hands of big owners, there is an increase in the number of cultivating tenants and tenants at will. The increase in the number of transfers due to sales of land has contributed to the process of swelling the numbers of the landless proletariat. The number of transfers has increased from 40,000 in 1905-6 to 115,000 in 1938-9. The fall in prices after 1929 added to the burden of indebtedness and compelled small owners to sell their tiny plots to pay the Government dues. The same tendency is revealed by figures of usufructuary mortgages of land which rose from 10% of the total cultivated area in 1922-3 to 13% constituting 4 million acres of land in 1936-7.[3] The growth of population compels even some of the cultivating owners of small plots to supplement the proceeds of their holdings by doing outside work.

Thus, the growth in the number of the agricultural proletariat is a marked feature of our rural economy. In 1882, the Census Report gave 7½ millions as "landless day labourers" in agriculture. This number increased to 21.5 in 1921 and to 33 millions in 1931. There can be no doubt that the number continues to increase as has been revealed in recent village enquiries. In the village of Khirhar in North Bihar, the agricultural proletariat forms 72 per cent of the total population of the

[1] Census Report, Vol. I, Part I, 1931, p. 288.
[2] Floud Commission Report, Vol. I, p. 318.
[3] T. Jain, Op. cit.

village comprising 1167 families with 7003 people according to Mr. Sarkar.[1] In South India, a recent resurvey points out that the existence of an increasing number of landless peasants has become a big problem and has assumed a grave aspect due to increasing landlordism and an increasing consciousness on the part of these peasants of their own economic and social emancipation.[2] We have already described elsewhere the tendency towards increasing absentee landlordism and towards the expropriation of the cultivators by non-cultivating investors and money-lenders.

One of the factors, that has contributed to the growth of an increasing class of landless labourers, is the economic transition through which some of the criminal tribes and castes of India are passing. Many of them have sought refuge in jungles and foothills. In most tribal areas the original tribal system was one of a village headman and ryotwari tenure. Under the land revenue policy of the British Government, a limited number of persons were given proprietary rights. These rights were gradually lost as money-lenders and traders exploited the ignorance and improvidence of these primitive people. Most of them were converted from tenants into landless labourers. This has happened to the Gonds in the C.P., the Bhils in Central India, the Korwas in the U.P. and the Mundas in Chota Nagpur.[3]

There has been a two fold tendency in regard to labourers on land. In a number of provinces, whilst ordinary cultivators show a remarkable increase in numbers, there has been a decrease in the number of farm servants and field labourers. There is a tendency for the cultivating owner to relinquish his land to the non-cultivating money-lender from whom he obtains the land again as a tenant. Between 1891 and 1921 in Bengal, whilst the number of ordinary cultivators and dependants increased from 29.7 million to 30.5 million, the number of farm servants and field labourers diminished from 3.6 million to 1.8 million. In C.P. in the same period, rent receivers increased by 52 per cent. The extension of cultivation with an increase in population has made the size of the holding uneconomical and has driven the hired labourers from employment on land to seek work as earth-workers, road-menders and other occupations, and in the last resort to purchase a strip of land by falling into the hands of the money-lender.[4] This economic tendency also explains the large increase in the class of unspecified workers in census returns.

[1] Indian Journal of Economics, July 1939, pp. 94-96.
[2] Op. cit. p. 347 *et seq.*
[3] "Economic Problems of Modern India," Vol. I. p. 42.
[4] "Land Problems of India," pp. 217 *et seq.*

Economic Condition of the Field-Worker

As we have stated, cultivators whose lands do not suffice for their maintenance add to their income by working as labourers in others' fields. But very often the labourers have no plots of their own. They are paid in kind for their services. They receive a share in the crop, the amount varying according to custom from province to province. Thus in the U.P. the Chamars are given 1/13th part of the barley crop and 1/6th of the wheat crop. In the Punjab they receive 1/10th of the whole crop of grain. They clear the fields before ploughing and assist in the reaping of the harvest. In Bengal, the annual wages of the day labourers vary from Rs. 8 to Rs. 24 together with payment in kind. In Bombay Province, the cash wages are as high as 8 annas a day in prosperous districts. In an intensive study of 1,592 families in 24 villages of Gokak Taluka, Bombay Province, undertaken in 1910, Dr. M. N. Desai reveals that labourers on non-irrigated lands receive Rs. 25 per annum per head and those on irrigated lands Rs. 31 per annum. The average income of the Harijans who constitute the greater part of the landless workers in these 24 villages was Rs. 29 per head. "To say that they are breathing will be more appropriate than to describe them as living in this world."[1] In Western Punjab, a day labourer gets Rs. 5 per month. In the Canal Colonies, he receives twice that amount and food and clothing as well.

Mr. J. V. Bhave, in a survey of a Berar village,[2] points out that out of 377 families in the village 43.7 per cent are landlords, 30.7 per cent are agricultural labourers and 11.6 per cent are tenants. The permanent labourers are employed on a yearly contract with wages varying from Rs. 3 to Rs. 8 per month. Out of 318 workers, only 30 are employed as permanent labourers. The employment of the rest is most uncertain. Here too, the problems of agricultural labourers are connected with untouchability as most of the labourers are untouchables.

Dr. Mukerjee gives us the following table regarding wages and price of rice in Bengal during eighty years :—[3]

	1842	1852	1862	1872	1911	1921
Field labour without food (in annas)	1	1½	2	3	4	4 to 6
Price of rice (seers per Re.)	40	30	27.1	22.7	15	5

[1] Op. cit. p. 273.
[2] "A Survey of Landless Agricultural Labour in Shindurjana Bazar," in *"Indian Journal of Social Work,"* March, 1943.
[3] Op. cit. p. 222.

The money wage has risen four to six times during this period, the price of rice has increased eight times. In brief, real wages have fallen by 20 to 50 per cent. The Quinquennial Wage Survey Report in the U.P. (1934) records the average wage at 3 annas a day. In 326 villages, it was 1½ anna only. No adequate wage statistics are available but there is no doubt that the conditions all over have deteriorated.

Serfdom in India

At the bottom of the agricultural ladder in India are those labourers whose conditions are not very different from those of serfs. Agricultural serfdom is most prevalent in those parts of India where the lower and depressed classes are most numerous. Thus in Bombay, Madras, Malabar, Cochin, the C.P., Central India and Chota Nagpur, where we have a large aboriginal population. the condition of the agricultural labourer is very much like that of a slave. An official report describes serf labour in the following terms : "The average agricultural labourer is not infrequently compelled in times of stress to mortgage his personal liberty. In return for a small sum of money, which he may happen to need at the moment, he agrees to serve the man from whom he has borrowed. The money is not repaid, nor is it intended to be repaid ; but the borrower remains a life-long bond-slave of his creditor. For his work, he merely receives an inadequate dole of food and to all intents and purposes is in the position of a medieval serf."[1] This agrarian serf labour is regularised in such a manner that some of the regions have a special name for it, e.g. Hali in Gujarat, Kaimuti in South Bihar, Janouri in North Bihar, Gothi in Orissa, Pannial pathiram in Tamil Nad, Gassi-gullu in Andhra, Bhagela in Hyderabad, Sanwak in Oudh, Harawali in Central India States, Jeetha in Karnatak and Barsalia in the C.P.[2]

In the Bombay Presidency, we have Dublas and Kolis who serve in their master's households as serfs for a number of generations. They may have received money for their marriage expenses, giving an undertaking to serve till they pay off their debt. They are fed and clothed by their masters. On the East Coast of Madras, similarly, many of the agricultural labourers are Pariahs who are known as Padials. The Padial is a serf who has fallen into hereditary dependence on a landowner from whom he has borrowed money. The money may have been borrowed either for his own marriage or for that of his son or daughter. The borrower undertook to work for the lender until the debt was repaid. Such loans are, however, never repaid and the Padials themselves are

[1] Quoted by Dinker Desai, "Agrarian Serfdom in India," in "*Indian Sociologist*," July, 1942.
[2] *Ibid.*

being attached to the soil, go with the land when it is sold or the owner dies. In Madras, the Padial's wages are paid in kind equivalent to Rs. 3-12 per month in terms of money. In Orissa, there are three kinds of hired labourers : (1) The Chakar or Baramasiya labourer engaged for 12 months with board and lodging and Rs. 24 in cash. His ancestor may have obtained a loan from his employer. (2) The Naga Muliya, who also works as a yearly servant, but receives instead of board and lodging, 4 seers of paddy, and a plot of land to cultivate free of rent. (3) The Danda Muliya, who is employed for a short period on specified wages. In Bihar, there are the Kamias or bond-servants who having borrowed money, bind themselves to perform whatever menial services are required of them by their masters. These depressed castes who have *no land or security pledge their labour, whenever they want a loan*; and not only their labour but that of their wives and dependants. Very often it happens that the joint wages of the Kamia and his wife are not sufficient to feed them and their children. Legislation was introduced in Bihar and Orissa in 1920, declaring that such agreements between borrower and lender were void unless the full terms of the agreement were expressed in a stamped document, or if the period of agreement exceeded one year. The Act did not prove effective, and a large number of serfs still work on the estates of Zamindars.[1]

An economic survey of the village of Atgam in South Gujarat undertaken by Mr. Mukhtyar in 1929, reveals a system of permanent labourers known as Halis who belong to the Dubla community and serve their creditors from year to year, being unable to repay the loan during their life-time. The Halis get their wages in kind or in some parts in cash. Their wives serve in the house of their husbands' masters, and their sons are employed as herdsmen. When translated into money the total amount of wages of a Hali family works out at 6½ annas per day. Mr. Mukhtyar observes that while the actual output of work per day by a Hali is often less than that of a free labourer, the rate of wages paid to a Hali is higher

[1] R. Mukerjee, op. cit. p. 227 *et seq*

[2] Op. cit., pp. 161 *et seq*.

Cf. "They are not employed at their own convenience on wages but are maintained usually hereditarily as permanent estate servants, by the large landlords—furnished by these with homes and food, and not regarded as in a position to resign service and seek any other occupation. There is virtually no difference between the position of these Halis and the slaves of the American Plantation prior to the Civil War, except that the courts would not recognize the rights of the master as absolute over person and services. But in this country where—more probably than in others—the rich have a better chance in the courts than the poor, this difference diminishes in importance. We might describe the situation by saying that these Halis are freemen *de jure* but serfs or slaves *de facto*." (Census Report of the Bombay Presidency, 1931, Part I, pp. 219-23.)

The Hali system is both uneconomical and inefficient ; but the big farmers who employ the Hali adhere to the system as there is growing migration of free labourers to the towns and cities. Similarly, Mr. J. B. Shukla in a study of 14 villages of the Olpad Taluka in Gujarat calls attention to the same system. These Halis serve their creditors from year to year being unable to repay the loan during their life-time. The Hali has been called an indentured labourer, a free man *de jure* but a serf *de facto*.[1] He is the backbone of the rural economy of the Surat District. In 1921, out of 84,000 Halis in the Bombay Province, 57,000, i.e. about 67 per cent were found in Surat District alone.[2] According to Mr. Sumant Mehta, the region of the Tapti river in Gujarat has about a lakh of serfs. "The Hali goes on drudging from year to year. He effects an escape from the drudgery either by death or by running away to a distant place from his village."[3] The same story is revealed in a survey of villages in the Bhiwandi Taluka, Thana District, by Dr. Bhagat who points out that the labourers from the Varli and Katkari communities borrow money on the occasion of marriages and agree to serve their masters at the rate of Rs. 10 a year.[4]

Conditions of forced labour seem to prevail all over the country. Writing about the aboriginal population of the Thana District an officer reports : "All jungle tract tenants who cultivate by 'khad' (i.e. those who pay fixed rent in kind, and not a crop share) are liable to be called upon to work for their landlords. . . . If they refuse or procrastinate they are liable to assaults or beatings . . . I was told on creditable authority of men being tied up to posts and whipped. Such occurrences I can vouch for. There are also rumours of men in the past having been killed."[5] This system of exacting forced labour from cultivating tenants exists in almost all the provinces.

Apart from *begar* or *veth* (forced labour), there is a system of levying *abwabs* or illegal exactions which survives in Bengal and Bihar. It has reduced the cultivators to semi-serfdom. Sometimes these exactions take the form of marriage fees, sometimes they are fines for social offences, sometimes they are taxes for carrying on certain trades. These exactions deprive the peasantry of a large portion of their already meagre income. The *abwab* is employed not only as an engine of financial extortion but of physical oppression. "In Rajshahi," according to a settlement report,

[1] Op. cit., pp. 117 *et seq.*
[2] Bombay Census Report, 1921, Part I, p. 20.
[3] J. B. Shukla, op. cit. p. 118.
[4] Op. cit. p. 212.
[5] Quoted by Mr. Desai in "Agrarian Serfdom in India," op. cit.

"landlords wield a sort of sovereign power dispensing justice and imposing taxes." According to another report, "in some of the remoter parts of Pabna, the Zamindars' agents still assume summary but unauthorised magisterial functions, fining, and, at times, imprisoning those whom they convict." Added to all this is the process of gradual expropriation of the cultivators by money-lenders, driving the aboriginals into the ranks of servile tenants liable to forced labour and to the payment of illegal exactions. Agrarian serfdom thus lingers on in India—a relic of the Middle Ages which might well be regarded as one of the darkest blemishes in the economic life of present day India.

The experts who constituted the Agricultural Commission with Lord Linlithgow as Chairman in their comprehensive report seem to have overlooked or ignored the problem of our agricultural proletariat. The problem was outside the purview of the Labour Commission. No protective measures, even of the simplest character, could, therefore, be thought of to help this enormous mass of our population except those contained in the famine code giving relief by employment in times of famine. The majority of this mass belong to the Harijan class—the most ignorant as well as the most helpless of India's population—which likewise "forms the pool from which the urban workers are recruited." The problem in our country is thus twofold—it is a problem of improving the conditions of the industrial workers as much as those of the agricultural proletariat.

The Problem of Agrarian Labour

"The multiplication of landless labourers from decade to decade is the surest symptom of agrarian unsettlement in India which expresses itself in the fury of petty thefts and bazar looting."[1] This landless class hangs about the country side, adds to the already existing inefficiency of agriculture and is a permanent obstacle to the introduction of better methods and the improvement of agricultural tools. It is this same class which driven by starvation into the cities lowers the wages of town-workers and impedes the rapid growth of trade unionism, housing improvement and civic amelioration. Speaking at the Second Conference of Agricultural Labourers, Dr. P. Sitaramayya observed: "A series of intricate diaries has come into being between Government and the ultimate cultivator who spends the day between slush and mud, who works now with a starving stomach and now with an half-appeased appetite, who knows no rest in storm or sunshine, who oftentimes has no dwelling site which he can call his own. He grows our paddy but starves. He feeds the

[1] J. V. Bhave, op. cit.

milch cows but never knows anything beyond canjee and water, he fills our granaries but has to beg each day's rations for the rest of the year. He digs our wells, but cannot touch them for his use, he clears our tanks but must keep off them when they are full. He is a perpetual hewer of wood and drawer of water for those who fatten on his labour, and rise to wealth and plenty on his skeleton."[1]

Dr. Sitaramayya in his address at the same conference suggested the need for collecting data for a colonisation scheme for the Harijans and the landless population to be run by co-operative societies carrying on joint production on a co-operative basis. The society would borrow money and assign land on leases for 12 years after which time the lands would become productive and paying. "Even a machine plough cannot fertilise land the soil of which is alkaline in character, the levels of which are uneven, the surface of which is overgrown with bush and hawthorn, the sides of which are not provided with irrigation and drainage channels, the contents of which are not manured. When all these are provided, an aeroplane need not scatter the seed, pumps need not water the fields, machines need not turn up the soil. We have such abundant man-power that we are the richest in the world for labour resources next only to China."[2]

Short of such comprehensive planning, we have in our landless proletariat the breeding ground for a revolution that may threaten the very foundations of our social and economic life. Agrarian unrest and crime may be the premonitory symptoms of an upheaval involving 33 millions of agricultural labourers, "the long suffering serfs" who are the first victims of disease, pestilences and famines. With a low vitality and living on the margin of subsistence, with no hopes for a better future, with a growing consciousness of the injustice and wrongs of the present economic system, they are pliant material in the hands of political agitators. Shall we take thought in time and plan for a rural economy which would guarantee the minimum of subsistence or a decent living for all, or look on with folded hands and continue the policy of drift while the clouds gather and the rains destroy a superstructure from under which the ground is already washed away ?[3]

[1] *Rural India*, May, 1940. Presidential speech at the Second Agricultural Labourers' Conference.

[2] *Ibid.*

[3] It is interesting to note that Sir Atul Chatterjee in a recent article on "Federalism and Labour Legislation in India," in the *International Labour Review*, April-May, 1944 has made a strong plea for a comprehensive enquiry into the conditions of this huge amorphous mass of agricultural labourers on political as well as humanitarian grounds.

CHAPTER XVI

A LONG TERM AGRICULTURAL POLICY

We have now surveyed the agricultural problem of India in all its main aspects. The agricultural situation of India to-day, not taking into account the exceptional circumstances created by the war, gives legitimate cause for serious apprehension. We have seen how the process of fragmentation and subdivision of land has been aggravated by an increasing population, clamouring for the cultivation of small strips of land in order to avoid starvation. In almost every province, there are hundreds of thousands of cultivators barely eking out a living by the cultivation of uneconomic holdings, compelled to incur debts with very little prospect of getting freed from the burden, and living under the constant dread of starvation due to the caprices of the rainfall. We have also seen how the increasing pressure of population on the soil has involved a strain upon its fertility turning, in some places, fertile land into swamps and jungles.

We must not, however, overlook the increasing efforts made by the Central and Provincial Governments of late towards the development of our agricultural industry. Those efforts are directed towards an increase in the yield of crops, and to the extension of the cultivation of cash crops of marketable value. The importance of animal husbandry is increasingly recognised. There is likewise an increasing recognition of the importance of forest conservation. An active interest is being taken in fruit culture, and in poultry and apiculture as subsidiary industries. Legislation in land reform has attracted attention. And provision of credit facilities through co-operative societies has met with increasing support.

But whilst we recognise the earnestness of these efforts, and the good intentions behind them, we cannot help taking note of certain broad facts in the economic situation so far as it affects agriculture. When we try to analyse the poverty of the agricultural population, we cannot over-emphasise economic changes brought about by British rule. The adoption of a protectionist policy by Great Britain in the early half of the 19th century in England, the subsequent change to free trade policy which proved most suitable to her, and the adoption of free trade policy in India, brought about the destruction of the handicraft economy by the dumping of machine-made products in India. The loss of occupations

equilibrium which followed upon the disappearance of rural industries was aggravated by a policy of indifference to, if not deliberate retardation of, the industrialisation of the country. The peace which British rule brought in its wake has been followed by an increase in the population with its corollary in the shape of the Malthusian checks like starvation and disease. We find no tangible evidence of adequate measures for rendering the labour of the increasing population more productive. The present administrative structure involves an overhead expenditure too great for a poverty-stricken population. To these facts are to be added the merciless exploitation of the toiling peasants by the landowners and the middlemen and the usurious activities of the village sahukars. Can India continue her slowly changing life while the rest of the world has been changing so fast ? She is in the stream of world events. The predominant cause of many of her ailments and particularly her agricultural backwardness is not what a foreign government has done or omitted to do, nor is it to be sought for in the conservatism of its agricultural methods, or in its social and religious institutions. The most outstanding fact which has characterised the changes in the economic life of India in the past hundred years of British rule is the fact that she has been suddenly faced with the problem of adjusting her economic fabric, based upon custom and the village as the self-sufficient unit, to a competitive organisation based upon prices determined in an international market. If Indian agriculture was a gamble in the rains in the past, it has become a gamble in world prices to-day. Methods of production which were adapted to a village economy cannot work successfully in a competitive economy. No well-planned policy devised to bring about a transition from the old to the new order of agricultural life could have been reasonably looked for from a government with a century of laissez-faire traditions behind it ; and tinkering with our agricultural problem which fails to take account of this fundamental fact can have no chance of reasonable success.[1]

It may also be observed that the increasing expropriation of the peasantry which marks our economic history has not resulted in the development of capital farming in our country as it has done in western countries. The flow of capital to agriculture is not productive

[1] This aspect of the agricultural problem of India has been particularly stressed in "The Economic Problem of India," by T. N. Ramaswamy, 1942. Even Dr. Vera Anstey writing in a half apologetic tone recognises the importance of this factor: "Specialised production for commercial crops has greatly increased, self-sufficiency has declined, and India has been brought within the orbit of world prices. Local and seasonal price fluctuations have by these means been greatly reduced but at the expense of increasing dependence upon world price trends and the trade cycle." "Modern India and the West," 1941, p. 490.

but parasitic, and has not led to the development of large scale farming. Investment of capital in agriculture is not regarded as a paying proposition in India due to the sudden transition from a village economy to an international price economy. It is not unnatural that the Bombay Industrialists' Plan does not grow eloquent over the development of agriculture by capital investment on an ambitious scale.[1]

With this situation in the agricultural sphere, when we turn from the details of agricultural conditions and methods to the larger problem of agricultural policy, we need to keep in mind two fundamental considerations. In the first place, we need to have a clear conception of the aim behind our policy. In the second place, any long term policy involving revolutionary changes must be capable of absorbing the elements of value in the existing social structure.

From the earliest days, agriculture has occupied a large place in national policies, not only because of the importance of food for the growing population, but also because of the importance of raw material which the land alone can yield for the building up of industries. There have been countries in the past that have fostered agriculture as the main source of national strength. There have been others which have virtually disregarded agriculture, content to be dependent on imported food and raw materials. There have been still others, who have thought in terms of self-sufficiency aiming at the satisfaction of their own agricultural needs without seeking to derive any large income from the export of its agricultural surpluses.

At the stage of economic evolution at which the world has arrived to-day, when scientific technological knowledge has made extreme types of economic specialisation possible, we might have expected the smaller countries of the world to resort to a policy of intensive development of a single line of production, whereas countries of wide geographical extent and considerable diversity of resources would aim at a high degree of self-sufficiency. Great Britain in the last century was a typical illustration of an industrialised country content to rely upon overseas producers for the bulk of her food and having a sense of security in the possession of a powerful navy. The war of 1914-18 so thoroughly undermined this sense of security as to give rise to a hysterical agitation for the rehabilitation of agriculture, even to the extreme demand on the part of a few

[1] Cf. "As long as capitalism remains what it is, surplus-capital will not be utilised for the purpose of raising the standard of living of the masses in a given country, for this would mean a decline in profits for the capitalists." (Lenin, Selected Works, Vol. V, p. 57).

to make Great Britain self-sufficient in the staples of subsistence. But post-war Britain with the memories of the threat of famine under conditions of submarine warfare did not completely succeed in reviving her agricultural industry. It endeavoured to effect a favourable exchange situation between her products and the agricultural products of the members of the Empire. During the course of the present war, she has made fresh endeavours to revive her agriculture. Her policy has been reoriented so as to bring more land under cultivation and increase the output by intensive and extensive methods. 45 per cent more land has been brought under cultivation after the outbreak of the war, and the output of cereals has increased by 50 per cent as compared with 1940-41. Every possible encouragement extending to direct subsidies has been offered for the development of agriculture.

Far more effective were the measures adopted in the U.S.S.R. for the rehabilitation of agriculture. The Soviet Government is committed in the long run to a policy of fostering the development of manufacturing industries which would make Russia economically self-sufficient. But the immediate need in Russia was more a need for an agricultural export surplus and the large majority of her population is still engaged in farming. This has necessitated a policy of continuous stimulation of her agricultural production. The one truth, however, that agricultural policy in the U.S.S.R. serves to illustrate is that a well-planned policy of socialisation in food production, whether through State management and control and cultivation of land or through collective and co-operative farms, can only succeed, if it is co-ordinated to other phases of economic life and even generally to the social and cultural pattern of the life of the nation.

The times through which we are passing in this country are peculiarly suited for a clear adumbration of a well-defined policy in relation to agriculture. Nature has endowed us with a variety of resources which would ensure to the people the satisfaction of their needs in respect of food. The present war has strengthened our financial position by the wiping off of our sterling debt and the accumulation of sterling credits. The main issue, as we have already stated, is to have a clear conception of our objective. Are we to aim at economic self-sufficiency in the matter of our food production, regulating our land utilisation policy so as to produce that quantity and quality of food and raw materials as would satisfy the demand for bringing up a healthy population and the corresponding demand of our industrial organisation? Or, are we to aim at a type of commercial agriculture which would make our price

structure dependent upon the international market and subject us to the influences of trade cycles and periodic slumps ?

The importance of the food problem has forced itself upon the attention of the nations during these last three years of war. An editorial article in *Nature* in 1942 observed, "There are huge blocks of human life, in India and China for example, where the standard of diet is not of the same order as the minimum proposed by the Technical Commission of the League of Nations. Europe with a population little more than one-third of that of Asia consumes more cereals and six times as much wheat. A world of such gross inequalities cannot be stable." So far as our own country is concerned, the preceding discussion of our agricultural problem has already made it clear that, as a result mainly of indifference and neglect, there has been an enormous wastage of our agricultural resources. We are buying from abroad commodities which could be produced at least as cheaply in our own country, if our internal resources were fully developed. We are importing also commodities when substitutes of equal or greater nutritive value are available at home. We have become dependent on other countries for various articles of food. We are importing, taking a pre-war year 1938-39, about three crores worth of "provisions and oilman's stores" every year, including cheese, condensed milk, jams, fruits, fish and farinaceous foods. There are few articles in this list, which could not be produced at least as cheaply from our own resources.

From 1941, far reaching changes have taken place in our foreign trade. Lack of shipping facilities, suspension of trade with enemy countries, exchange control have all contributed to the reduction of our imports and exports alike. If this reduction wakes us up out of our lethargy and stimulates our home production, it will be all to the good. But we cannot be optimistic about the future, unless we regard our war time difficulties as a challenge and an opportunity for reorganising our agriculture on a comprehensive long term plan with a definite objective.

Assuming that our objective in agriculture is economic self-sufficiency with a possible margin of exportable surplus, which would enable us to buy our industrial requirements, the next question that arises is the measures by which this objective can be attained. When we take into account the extent and the rapid growth of the agricultural indebtedness, the fragmentation and subdivision of the land in almost every part of the country, the rapidly increasing population, and the simplicity of agricultural tools and methods to which the ryots are used for ages, it might almost seem a task beyond the capacity of man to transform this land

of medieval feudatories, on the one hand, and rack-rented poverty-stricken ryots, on the other, into a land of milk and honey. The authors of this work have no illusions as to the practicability and ease with which a new agricultural policy can be inaugurated in this country. The results of centuries of traditions and methods cannot be wiped off in a few years. Settled modes of administration cannot be broken up without producing reactions which it is impossible to anticipate. The modes of corporate life have a method of avenging themselves in case they are deliberately set aside. But whilst all this may be true, there are occasions in the life of nations as of individuals when a drastic situation demands drastic remedies. The agricultural situation in India has, perhaps, reached such a stage in its history. Its food resources do not expand with its ever increasing population. More land cannot be easily brought under cultivation with present methods. The futility of the tinkering expedients of the last hundred years stands out in marked contrast to some of the bolder war time measures forced upon a Government still reluctant to give up its *laissez-faire* attitude.

A study of the agrarian policy of Russia before the outbreak of the revolution in 1917 offers a remarkable parallel to the history of agricultural policy in India. In one sense, the Czarist experiments for the development of agriculture were more vigorous and were on a far more liberal scale of expenditure than was possible in India. The main problem in Russia was the poverty of the peasants and the large number of the landless proletariat. Between 1908 and 1912, the use of artificial manures in Russia increased by 400 per cent. The output of agricultural machinery advanced enormously in the same period. The yield of land showed a rapid increase. And yet the main problem remained unsolved. The standard of living of the rural classes showed no improvement and even declined. The increase in population resulted in continual subdivision of farms. The total number of holdings had increased in a period of 30 years from 9 to 12 million. The cultivating class except the well-to-do kulaks continued primitive types of farming. The rural economy of Czarist Russia presents features which have their parallel in the rural economy of India—uneconomic holdings, continuing subdivision, small strips of land, farmed by men with no capital of any kind, unable to profit by the advances of scientific methods. We may or may not experiment in a free India on the lines of Russia. But if the uneconomic agriculture of our days is to be transformed into a flourishing agriculture, providing the millions with the means of a comfortable existence, we need a radical change in our policy and the abandonment of what we might call a policy of nibbling characteristic of the past.

But it must also be remembered that the problem of agriculture cannot be solved by agricultural policy alone. The economic life of any nation is an organic whole, and there can be no large scale healthy development of agriculture unless it is correlated to the development of non-agricultural industries of all kinds. Both in turn are dependent on a well-planned and well-organised banking and currency system as well as efficient transport and communication facilities. In a correct perspective, the economic life of the country as a whole must be correlated with a regenerated body of social and cultural institutions, and a new outlook on life.

No agrarian reform in India has any likelihood of success unless the question of agricultural indebtedness is settled and the Indian farmer gets a chance of working on a clean slate. We have now in our midst *a Central Bank, having a hold over our capital and credit market, the* custodian of our national resources and credit. The primary charge on our national resources should be the claims of our agriculture with its 290 million dependants. Under section 54 of the Reserve Bank Act, an Agricultural Credit Department has already been functioning, dealing with the many-sided problems of rural credit. We have also the beginnings of a mechanism through which the Reserve Bank can make credit available to the country. We have the Central Co-operative Banks which are linked up in turn with the Provincial and District Co-operative Banks, and in the final resort, to village societies and lending agencies.

How is the question of indebtedness to be solved ? Even if a policy of complete repudiation or cancellation of all debt were to be adopted by a national government in the general interest of the agricultural classes, a policy familiar to the ancient Greeks and Romans, and not unreasonably held to be sound, it would not be an unmitigated hardship for that small and much abused class of money-lenders, who have mostly safeguarded their loans on the assumption that what they lent would never be returned to them. But if this be considered too drastic a measure even for a national government, there are alternative methods of dealing with the agricultural debt. Debt conciliation boards are already working in a number of provinces, scaling down the debts by mutual consent to figures ranging from 50 to 30 per cent of the original claim. In Madras, the ground for a proposal such as we desire to make has already been prepared under the Debt Adjustment Boards. The Provincial Government made arrangements by which the debtor could borrow the necessary amount to pay off his adjusted debt by new borrowing financed from Government funds. In the Punjab, under the operation of the debt

conciliation boards, debt claims upto a total of 40 lakhs were conciliated by actual payment of 14 lakhs. Scaling down of the nominal agricultural debt which stands to-day at 1200 crores to 25 per cent of its face value, for the purpose of settlement would not create such radical dissatisfaction among the creditor classes as to threaten the foundations of an organised society.[1] It has been urged as an objection against such a drastic process that it tends to deprive the peasant of credit, "to make it difficult for the enterprising to obtain capital to develop their land, and easy for the inefficient to remain on it and to undermine the moral sense of obligation which makes a man pay his dues and repay his loans."[2] All such objections rest upon the fundamental assumption of the perpetuation of the capitalist order working on the *laissez-faire* postulate. But even assuming such an order, we doubt if the scaling down of debts would bring about a radical alteration in the character of the cultivating classes accustomed to observe the sanctity of contracts from generation to generation.

The debts, when they are thus scaled down, can be paid off through Land Mortgage Banks financed ultimately by the Reserve Bank, and made repayable by the cultivators in easy instalments spread over a number of years. If the total amount of credit thus made available is roughly 250 to 300 crores of rupees, such an amount is quite within the actual credit resources of the Reserve Bank of India. Full control of our currency and financial policy will enable us easily to overcome the constitutional objections about the powers of the Reserve Bank. But the burden need not be thrown entirely on the Reserve Bank. After the debts have been scaled down by Debt Conciliation Boards, the liabilities of the agriculturists could be taken over by Land Mortgage Banks, who could recover the amount from the debtors by instalments spread over a number of years.

But this is only the beginning of a huge task that will face the responsible leaders of our national government. If this country is to enter upon agricultural production by mechanised methods and the use of scientific appliances, it is obvious that the seeds, the implements, the fertilisers will have to be supplied by the State, as also the propoganda

[1] The People's Plan makes a similar suggestion for reducing the present debt to 25% and proposes that the State should undertake the liability of repayment by issuing self-liquidating bonds of 40 years at the rate of 3% interest. The Bombay Plan, on the other hand, ignores the gravity of the debt problem and has no solution to offer except the usual tinkering method of helping the ryot through co-operative societies.

[2] Presidential address by Sir M. L. Darling, Proceedings of the First Conference, The Indian Society of Agricultural Economics, 1940, p. 12.

and the educational machinery for familiarising the cultivating classes with the new methods and the new appliances. Plots and properties that are too small will have to be brought together in collective farming for the effective pooling of resources and implements. The present day rigid practice of collecting the land assessment will have to be replaced by a system in greater daily touch with the farming population, which will take from them a part of what they have actually produced, leaving them a reasonable margin for a comfortable living. The principles of co-operative farming which we are here envisaging will not be entirely unrelated to the past. If the village community in India was already an economic unit aiming at self-subsistence, and based upon a sense of co-operation and corporate life, the principles of collective farming on a co-operative basis with State credit to make up all the deficiencies of private enterprise, admit of being easily grafted upon these old world economic institutions.

Russia at the time of the Revolution of 1917 was likewise a land of small farmers sunk in poverty with a heavy load of debt. They were not far from being serfs attached to the soil. Within a period of 15 to 20 years the whole agricultural outlook in the country was changed. The peasants were induced to pool their lands, their live-stock and their implements. Partly under pressure, partly by propaganda, partly by economic inducements, more than half of the entire peasant households of the Soviet Union were organised in collective farms, and over 70 per cent of the total cultivated area was brought under State and collective farms. If this could be achieved in Russia, with a peasant population as illiterate and depressed as the cultivating millions of India, a similar transformation of our agriculture from the old world methods to modern scientific farming on a co-operative and planned basis, backed by State aid and control is not beyond the limits of practicability. Such radical transformation of our agriculture would involve the complete disappearance of parasitic landlordism and the consequent redistribution of land.

Nothing seems clearer to us than that our agricultural problems, as we have sketched them in the foregoing pages, can never be solved by private initiative and efforts and along the traditional lines of *laissez-faire* tinkering. These problems represent the crystallised results of the accumulated neglect and blunders of generations. Some of them are the product of institutional forces. To shake our agriculture free from the trammels of the past requires the corporate wisdom and resources of the body politic, resolutely bent on achieving its end, even at the cost of shaking the foundations of social stability.

We have hitherto assumed the feasibility of a planned agricultural development working on a clean slate and backed by the total resources which the nation can make available in the shape of men and materials. Perhaps we are over-simplifying the nature of the problem and our diagnosis of the character of the disease. We have already pointed out, that underlying all the defects of our present agricultural organisation, there may be deeper and more far reaching causes than the indifference of our ruling classes and the conservatism and thriftlessness of the agricultural population. Briefly, the Indian farmer, whose agriculture was hitherto of the subsistence type of production, has been forced in a period of less than a century into a wider circle of exchange. Economic changes have led him to grow food or non-food crops on his farm, irrespective of the capacity of the farm, and its suitability for the growth of the crop. A subsistence type of agriculture cannot be readily adjusted under conditions of private enterprise to the efficiency and specialisation of agricultural production such as are characteristic of the U.S.A. and Canada. It is this subsistence type of agriculture that has been dragged into the international market under the British rule, into growing cotton and wheat, linseed and groundnuts, for creating an export surplus to offset her payments for imports of services and cheap manufactured goods.

Even if the problem that faces us to-day in India is, as it is often said to be, the problem of equating a subsistence type of production with the new competitive conditions in a world market which her agricultural production has to face, an easy optimism like Sir M. Visvesvaraya's cannot take us very far. He enumerates most of the details that we have touched upon and seems to rest satisfied with such an analysis. "Excessive pressure of population on land, the small size of holdings and their progressive fragmentation, primitive methods of cultivation, waste of farm manure, irregular hours of labour, lack of finance, crushing indebtedness of the ryot, universal illiteracy and phenomenal poverty."[1] Sir M. Visvesvaraya obviously thinks that if each of these weaknesses in the agricultural system can be dealt with by its own appropriate remedy, the country would soon find itself in an agricultural paradise. We have only to supply goods seeds, fertilisers, modern tools and improvements, healthy live-stock, working capital, cheap transport and favourable marketing facilities, we have only to provide subsidiary occupations suitable to each locality, and instruction in modern methods of farming, follow the U.S.A. as a model here, and Soviet Russia as a model there, and by a miraculous turn of the magician's wand we may convert this land of poverty into a land of plenty.[1]

[1] Planned Economy for India, p. 52.

Leaving aside such easy methods of dealing with our agricultural problem, we ask ourselves what a large scale planning would be able to accomplish. Even the Agricultural Commission felt inspired at one stage to suggest : " If the inertia of centuries is to be overcome, it is essential that all the resources at the disposal of the State should be brought to bear on the problem of rural uplift." The problem of improvement of agricultural production in India is not a purely technological problem. It is primarily an economic and political problem. Technological possibilities in the circumstances in which we find ourselves can only be translated into actualities through a planned reconstruction of our socio-economic structure. This is recognised in Dr. Burn's report when he observes that " if at the moment we are not prepared to accept the implication that modern technological methods demand the increase in size of productive units, we must at least admit that technological improvements are impossible without at least collective action by aggregations of units."[1] He ends up his report by saying that, in any planning of agriculture for the future, one inevitably turns to the great Soviet experiment ; he quotes Sir Daniel Hall, a well known British agricultural scientist, who states that planning of the Soviet organisation was done by men of wide material knowledge of the world and a wide experience of agriculture.

Apart from this admission of the necessity for a planned agricultural development for the uplift of the masses, history has long since offered evidence of the failure of private enterprise in solving agricultural problems. In England, a farmer's output of milk or potatoes has been limited. He is encouraged to produce wheat and sugar beet. In the U.S.A., he is encouraged not to produce wheat. Wheat control was attempted, but broke down as the controlling board had no power to enforce its decisions. Even where there is no control, the farmer is not free to grow what he thinks best. The small farmer in the U.S.A., farming on borrowed money, has to grow crops that his creditors approve. The local bank manager would want the crop to be one that would sell ; the store keeper would not favour the growth of food for the farmer's own consumption. The choice does not lie between control and the absence of control. It lies between control by a central body for the good of the whole community and control by a variety of smaller bodies with limited and conflicting interests. Private enterprise in agriculture has been attended with waste and disaster. State control may perhaps involve waste and inefficiency. But are we sure that planning by the State

[1] Report, p. 120.

is worse than the sporadic planning or lack of planning involved in the present system ?[1]

Planning for agriculture would require, in the first place, a careful ascertainment of the food requirements of our population on the basis of a balanced diet. Such calculations should take into account the growing quantities demanded by a growing population within the next ten or twenty years. In the second place, there would have to be regional allocation of different varieties of food crops suited to the character and constituents of the soil. Such planning, if it is to be successful, must be on an all-India basis in which questions of provincial autonomy and intra-provincial differences should never be allowed to interfere with the larger interests of the population of the country as a whole. In the third place, the organisation of village co-operative societies in every village should be the machinery through which the farmer can get the seeds and fertilisers, and implements necessary for raising the crop assigned to his land under proper advice. The village co-operative society may not be confined in its activities to the supply of cheap credit under private initiative. Its activities may extend to co-operative production linking the small farmers into the enjoyment of the benefits of large scale farming by mechanised methods. These co-operative societies, which we have in mind, are not to be the product of private enterprise, helped by private resources, but the creation and agents of the Government, working with capital made available by the Reserve Bank, with their personnel in daily touch with the agricultural population, helping and guiding and stimulating at every turn.

The type of agricultural organisation we are visualising is an organ-

[1] The much boosted capitalists' Bombay Plan which proposes to plan for a doubling of the national income in 15 years takes no account of the deep rooted malady in our agriculture and provides the same Visvesvaraya type of tinkering remedies. For the authors of the plan there is obviously no parasitic landlordism, and there is no landless proletariat, the two tragic features in our agricultural life. To those who ignore these features and their admirers the execution of such plans may promise economic salvation ; their naive faith in the efficacy of private enterprise may bring comfort to their souls. We, whose faith in private enterprise has been so profoundly shaken by the course of events, and who are alive to the factors that are undermining our agricultural organisation and which the authors of the paln ignore, we may well be permitted to be sceptical about such self-propelled economic panacea-wise projectiles. It is refreshing to note in this connection that, whilst the second part of the Bombay Plan makes a lukewarm suggestion for transforming gradually the Zamindari system into ryotwari tenures, obviously in deference to criticism for omission of all reference to the subject in the first part, the People's Plan offers a solution in the form of nationalisation of land held by parasitic owners through the issue of 40 years' self liquidating 3% State bonds. We do not think, however, that the wholesale expropriation of landlords would be in any way an unjust act, in view of the fact that it would merely deprive the landlords of what did not and does not belong to them.

isation based upon State regulation of production in the general interest of our people, and the conversion of agricultural production into a public utility service. Such an organisation, we hope, will not break up the stability of the social structure, though it will temporarily aggravate the difficulties of a surplus population on the soil. For the caste organisation and the joint family system, whatever be their weaknesses and shortcomings, rest upon those ideals of service and co-operation, which underlie the socialised agricultural production which must replace the uncoordinated competitive activities of a *laissez-faire* organisation. Any method of mechanised and scientific agriculture is bound to bring with it a phenomenal economy of human and animal labour—a problem of an exceptionally serious character in India, which will have to be dealt with as an independent question. Society will have to find its own method of absorbing the drones whom it is compelled to produce in the course of its planned activities. But the application of scientific methods to agriculture in India, it may be suggested, need not employ that power production by mechanised appliances which would throw out of employment the existing population that work with their hands. The place of mechanical power may well be taken in India by human labour, when it is so abundant for that intensified production, which would raise the standard of life of the agricultural population. All that we need to emphasize at this stage is that if socially planned agricultural production involves the subordination of private initiative and individual enterprise to social ends, such planning should not deter us from reconstructing our social institutions. The planning of food production for the satisfaction of our own hungry millions involves not the glorification of the profit making individual, but the abandonment of greed and self-aggrandisement in the individual, a resuscitation and reorientation in a new economic environment of that corporate spirit which has been so characteristic of the social organisation of ancient India. "The cultivator" still remains "a member of a definitely organised community, which has, as far back as the history of social organisation in India can be traced, been dependent on itself for the means of living, and to a very large extent for its government."[1] The economic reorganisation which we envisage, unlike the changes which the Agricultural Commission apprehended would disrupt the social order, would at the same time preserve the elements of value in the old social order, whilst the improvement in the standard of life would be accompanied by closer ties between the villages and towns and the dissolution of the rigidities of the water-tight compartments of the earlier social organisation.

[1] Agricultural Commission Report, p. 479.

Finally, even at the cost of repeating ourselves, it is necessary to observe that the problem of agriculture can never stand by itself, and can never be solved unless the planning that we are considering is taken as an organic part of a wider planning that extends its activities to all the aspects not only of our economic life but even of our social life and cultural ideals. The planning of agricultural production must be correlated to a planning of industrial production, and these two again can be successful only if they rest upon the foundation of a planned currency and credit organisation. Production in turn must be correlated to distribution, with the abolition of glaring inequalities and the dissemination of the productive resources of the nation amongst the mass of the population with a view to bringing within the reach of all the conditions of a comfortable existence.

APPENDIX

THE STATE AND AGRICULTURE

Even in the days of the East India Company, increasing interest was taken in the possibilities of improving Indian agriculture. As in the matter of banking and currency, so in the sphere of agriculture, it was assumed that methods which had been attended by success in Great Britain would also succeed in India. Thus in 1839, the East India Company requisitioned the services of 12 American cotton planters to show how cotton should be grown in India. In 1864, similarly, the Madras Government imported "steam ploughs and a battery of implements" to teach Indian cultivators how to cultivate the soil.[1] On the conclusion of the works of the Bengal and Orissa Famine Commission in 1866, Government began to consider the desirability for a general policy in agriculture by the institution of a special department. It was not till 1871, however, that the first Agricultural Department was created "to take cognisance of all matters affecting the practical improvement and development of the agricultural resources of the country."[2] It is interesting to find, as the Royal Commission on Agriculture point out, that the institution of a separate department of agriculture in each province was the result of the interest taken by the Manchester Cotton Supply Association in the improvement of cotton in India, a crop in which it was primarily interested.[3]

[1] Sir John Russell's Report, p. 1.
[2] Quoted in Voelcker's Report, p. 1.
[3] Agricultural Commission Report, p. 15.

A department of Revenue, Agriculture and Commerce of the Government of India began to function in 1871. and continued to do so until 1879, when the Department was reabsorbed in the Home Department. In 1880, the Famine Commision stressed the necessity of establishing Agricultural Departments under a Director in each province. Agricultural enquiry, the collection of agricultural information with a view to inform the authorities about the approach of famine, agricultural improvement with a view to the prevention of famine in future, and famine relief were laid down as the duties of the new departments. Accordingly in 1882, Provincial Departments of Agriculture were instituted. These Departments were made Departments of Land, Records and Agriculture, for compiling and collating the agricultural facts and statistics of every village. A new Imperial Department of Agriculture was also created with Sir Edward Buck as secretary. Such were the beginnings of agricultural policy. Agricultural science was in a very backward state in England at that time. The only science which had made any progress was agricultural chemistry. Proposals for the recruitment of an agricultural staff were confined to chemists. *In 1889 Dr. Voelcker* was sent out to advise as to the best way of applying agricultural chemistry to Indian agriculture. He toured all over India and made his well-known report on the Improvement of Indian Agriculture. He maintained that Indian agriculture was far from being primitive and backward, that in many parts of the country there was little or nothing that could be improved, and that where agriculture was manifestly inferior, it was more the result of the absence of facilities which exist in the better districts than of bad systems of cultivation. He recommended the systematic prosecution of agricultural enquiry and the spread of education and laid down in details the lines on which agricultural improvement was possible. The Royal Commission on Agriculture observed thirty-five years after Dr. Voelcker's report that his book was still of the utmost value to all students of agriculture in India.

In 1892, Mr. James Mollison was appointed Technical Deputy Director of Agriculture for the Bombay Presidency, and Dr. Leather came out as Agricultural Chemist to the Government of India. In 1901, Dr. Mollison was made Inspector-General of Agriculture in India.

In the meantime, sugar cane diseases caused heavy loss to cultivators in Madras. In 1898 Dr. Barber was brought to Madras where he achieved remarkable success by selecting disease resistant varieties. The Famine Commission of 1901 recommended the appointment of experts in the Agricultural Departments of all provinces, capable of applying scientific

methods to the improvement of agriculture. It also recommended the introduction of mutual credit associations on the lines of the German Co-operative Credit Societies. In 1901, an Imperial Mycologist and an Imperial Entomologist were added. The Agricultural Departments were reorganised in 1905 under Lord Curzon. A central research institute was instituted at Pusa with an agricultural farm and an agricultural college. Provincial research institutes and experimental farms were also established in each important agricultural tract. A sum of Rs. 20 lakhs was made available by the Central Government for the improvement of agriculture.

Imperial Council of Agricultural Research

The Government of India Act of 1919 put upon the Provincial Departments of agriculture the main responsibility for agricultural development, and reserved to the Central Government the right to promote research and the power to deal with animal and plant diseases. The Imperial Agricultural Research Institute at Pusa received through Lord Curzon a donation of £30,000 from Mr. Henry Phipps of Chicago. In addition, live-stock work was carried on by the Imperial Institute of Animal Husbandry and Dairying, the Imperial Cattle Breeding Farm at Karnal, and the Creamery at Anand. An Imperial Sugar Breeding Station was established at Coimbatore as a branch of the Pusa Institute. Finally, the Imperial Institute of Veterinary Research at Mukteswar started on a model scale in 1893 now manufactures protective sera and vaccines of which some six million doses are issued annually. The Royal Commission on Agriculture issued its report in 1928 and made comprehensive recommendations. It was, however, precluded from discussing the problem of land tenures which was not included in its terms of reference.[1] It was followed by the establishment of an Imperial Council of Agricultural Research, whose duty is to give the lead and co-ordinate, wherever it is necessary, but not to intervene in Departmental affairs. It makes grants for approved investigations. Its work is to be periodically reviewed by a disinterested expert ; the first to be chosen for this work was Sir John Russell who made his report in 1937.

The central organisation of the Imperial Council was divided into two parts, a Governing Body which would have the management of all the affairs and funds of the Council, and an Advisory Board, the functions of which would be to examine all proposals in connection with the scientific objects of the Council which might be submitted to the Govern-

[1] Similarly the Taxation Enquiry Committee was precluded from discussing the Land Assessment as it was not within the terms of reference.

ing Body. An initial grant of Rs. 25 lakhs supplemented by an annual grant of Rs. 7.25 lakhs was provided from the funds of the Central Government. Donations have also been made by some of the Indian States ; and an Act of 1940 levies a cess of ½ per cent *ad valorem* on certain agricultural commodities, with a view to securing a larger stable income for the Council. The proceeds of the cess are expected to yield about Rs. 14 lakhs.[1]

During the Great Depression of 1929, unlike other countries of the world, the Government of India did not take any steps to help the ryots who were hit hard by the precipitate fall in agricultural prices. Government remained wedded to their traditional *laissez-faire* policy. They argued that, as the world depression was the result of world causes, any action taken by them would not help the situation at all.

Sir John Russell reviewing the work of the Council makes a series of comprehensive recommendations. The Council should hand over to the Universities investigations of a scientific nature, and make a grant to the Universities for this purpose. The results of such research should be embodied in a series of monographs. The Council should stimulate extension work by the Departments and commercial exploitation of useful discoveries. Investigations on food crops should be made in conjunction with nutrition experts, who should advise what crops should be grown to make up the deficiencies in the various regions. The investigations should also be directed to increasing the output per acre of food crops, so that land may be liberated for the growth of supplementary crops and of fodder crops for the production of milk. Crops that should receive early attention include wheat, barley, vegetables and fruit. The work on crops sold in the open market should be done in association with expert buyers; each such crop should have its own committee, as now happens for cotton and jute. A survey showing the quantities of food produced in the various provinces should be made so as to provide a basis for joint action by agriculturists and nutrition experts in improving the schemes of food production in the villages.

As they are now organised, the Agricultural Departments are equipped for bringing the results of the application of science to agriculture into the villages. There are the agricultural colleges and research institutes at one end. At the other end are the village demonstration plots, where the effects of improved seeds, methods, implements and manures are shown under the cultivators' own conditions. There are also experimental farms, seed farms and seed stores. The latest figure regarding

[1] Indian Year Book, 1942, p. 294.

the area under improved varieties of crops in British India was approximately 23 million acres. It is difficult to ascertain the full extent of the use of improved varieties.

Improved methods are being studied and work is in progress on a number of crops. Whilst we are fully alive to the valuable work done by the Agricultural Departments and the Research Institutes, we cannot in our enthusiasm lose sight of the gravity and huge proportions of the agricultural problem in a country so densely populated, so overburdened with debt, and devoid of financial resources as ours. We cannot omit observing that the net results of such State activity as we have described are relatively small and at the present rate of progress and expenditure may take decades, if not centuries, before they prove adequate to the needs of the country.

Under the stress of the War, the Government have been forced into the institution of various kinds of control, rationing of foodstuffs, a definite procurement policy and the appointment of committees to examine and report on various aspects of agriculture. We may mention Howard's Report on Post-War Forest Policy and Dr. Burn's Report on Technological Possibilities of Agricultural Development in India. A committee has been appointed recently for stabilisation of agricultural prices. The Kharegat Memorandum on Agricultural Development in India envisages an immediate increase of 15% in agricultural production, and a ten year target of 50% improvement with the ultimate object of doubling the pre-war production in a period of 15 years. The scheme, it is estimated would cost Rs. 1000 crores with a recurring annual expenditure of 20 crores and is to be brought into operation after the completion of preliminary surveys.

Agriculture and the State in the West

In the West, acting on the assumption that agriculture has to be carried on with a view to capturing markets at home or abroad, during the last fifty years, there has been a marked tendency for the State to take an increasing share in the introduction and financing of all possible measures for the development and improvement of agriculture. Even a hundred years ago, the Governments of many European countries undertook the introduction of new crops like sugar-beet and leguminous plants. The desire for self-sufficiency led Germany and Italy to introduce flax and cotton, and the U.S.S.R. to cultivate various species of plants for the production of rubber. In a number of countries specially the U.S.S.R. and Italy, the improvement of plants is entirely in the hands of the State,

which compares and selects improved varieties, tests their qualities, and distributes the information to the cultivators. The work in this connection has started with research and experiments, supplemented by a properly organised inspection service, responsible for supervising the condition of crops and testing plants. In the next place, agriculturists are kept informed of technical progress by propaganda and popularisation of knowledge. The countries which have acted in accordance with these principles are now at the head of the agricultural movement.[1]

It has also been recognised that the future of agriculture largely depends on research and progress in the fertiliser industry. New methods of manufacturing nitrogen have been invented. Deposits of potash in Russia, Spain, France and the U.S.A. have been largely exploited. The use of complex, complete mineral fertilisers is being increasingly resorted to in the U.S.A. As the outcome of research and practical tests, there is a general increase in the use of superorganic nitrophosphates out of many forms of vegetable waste from the main crops.

In Europe, during the present century, the State has assumed the initiative and has met the larger proportion of the costs of land reclamation and improvement. In many European countries, intensity of cultivation having reached the limits set by present day technique, the State has taken a leading part in winning new areas for cultivation and in increasing the fertility of those already under cultivation. In Italy, even as late as 1920, there were parts of the country which were infertile, marshy and depopulated, some of them, lands lying below sea level, and exposed to inundations of varying durations. One of the largest of these marshland areas is the Pontine Marshes. The Law of December, 1928, followed by the Decrees-Royal of February, 1933 provided for reafforestation, correction of the upper courses of mountain streams, reconditioning of slopes by means of meadows, draining of these slopes, reclamation of lakes and of marshes, supply of drinking water to rural population, distribution of electrical power for agricultural purposes, construction of communications and consolidation of holdings. Subsidies granted to private persons normally amounted to one-third of the expenditure but may reach even 75 per cent. On the 1st July, 1938, the total area on which reclamation works were, or were being, carried out amounted to 5,700,000 hectares. The expenditure over the period 1922-38 amounted to 6,579,000 lire. To this must be added 4,413,000,000 lire which the State disbursed in the form of subsidies for land improvements carried out by private persons. The transformation of lands has

[1] "Conditions and Improvement of Crop Production, Stock Raising and Rural Industries," Geneva, 1939, pp. 15-16. (European Conference on Rural Life.)

resulted in a rise in their values as may be seen from the following figures referring to reclaimed zones in Venetia :—[1]

Zone	Land Value lire per hectare Before	Now	Increase in Value Original value 100
Middle Adige	5,000	16,000	320
Delta of the Brenta	2,500	10,500	420
Lower Ongaro I	2,500	13,000	520
„ „ II	2,500	13,000	520
Mouth of the Brenta-Adige	2,200	10,000	455

The main land reclamations in Holland were effected by means of immense artificial dykes, enclosing areas of sand and alluvial clay liable to inundation and isloating them from the sea. Once the salt water is kept out, the areas gained are intersected with a close network of channels which serve to drain the land.[2]

When we consider these unceasing efforts made for the improvement of the conditions of agriculture and reclamation of land, we cannot help contrasting the immensity of the work that lies ahead of us in India, and the miserably limited character of our own achievements. The possibilities of land reclamation in India may be judged from the fact that 47,000,000 acres are classified as current fallow from year to year, and 97,000,000 acres as uncultivated land which could be cultivated. There is another item of 89,000,000 acres which is classified as not available for cultivation—that is nearly 20 per cent of the total area of British India. Taking the European countries, apart from Norway and Sweden and mountainous countries like Greece, Switzerland and Roumania, the rest of the countries show an average of ten per cent of land incapable of cultivation. Even a country like Finland shows 82 per cent of its total area as capable of cultivation.[3] Here is a problem which will challenge the willingness and capacity of the National Government of the future. The slow increase in the total production of food and the low productivity of our soil involve a danger to the nation's vitality. If any advance is to be made in the standard of living of our countrymen, we must pool all our resources and co-ordinate all our efforts not only towards increasing the productivity of the soil, but above all towards organising a campaign for preventing waste and reclaiming those millions of acres of unutilised land that await the application of human research.

[1] "Land Reclamation and Improvement in Europe," Geneva, 1939, pp. 33 *et seq.* (European Conference on Rural Life.)

[2] *Ibid.*, p. 38.

[3] "Population and Agriculture," Geneva, 1939, p. 12 (European Conference on Rural Life.)

CHAPTER XVII

GROWTH OF INDUSTRIES

Indian Industries in the Past

"At a time when the rest of Europe, the birth place of the modern industrial system, was inhabited by uncivilised tribes, India was famous for the wealth of the rulers and for the high artistic skill of her craftsmen," so begins the Report of the Indian Industrial Commission, presided over by Sir Thomas Holland, 1916-18. "Even at a much later period, when traders from the West made their first appearance in India, the industrial development of this country was at any rate not inferior to that of the more advanced European nations." Cotton spinning and weaving were familiar as domestic employments as early as the Mohenjo-daro civilisation. The Muslins of Dacca were known to the ancient Greeks. India has been regarded legitimately as the mother country of the cotton industry. The iron industry was developed to an extent that enabled the country to export its finished products to other countries. Bernier and Tavernier in the days of the Moghul rule bear witness to the large streaked silks, tufts of gold turbans, silver and gold cloth, brocades, satins and minute carvings in wood and ivory. The textile industries supplied the needs of the common folk and so did the arts and crafts like those of the blacksmith and the carpenter supply the local needs of the village. Besides these industries, undoubtedly on a small scale as in all countries at the time, there were also highly specialised arts and crafts in the towns which catered to special classes of customers, the more well-to-do classes and the royal families. Such were the brassware industry in Benares, the shawl industry of Kashmere and the silk industry of Murshidabad. There was also a considerable foreign trade in steel and silk and cotton fabrics, carried across the oceans in our own ships.

If we turn from the village economy of India to its urban life in the Moghul times, the same impression is reinforced. "The courts of Indian Rulers had always attracted to themselves the surplus grain of the country side to feed the armies, officers and dependants of the Chief. These and the traders and the artificers who supplied their needs made up the population of an old Indian capital. From an industrial point of view, the most interesting section of this population was the class of artisans, who were engaged in producing not only arms and leather accoutrements, but rich textile fabrics, carved stone, wood and ivory,

wrought metal, jewellery and other articles of luxury, often of exquisite workmanship and high artistic value. Even to-day, the famous centres for the production of Indian art wares are the old capital towns."[1]

The East India Company and Early British Rule

After the decline of Venice and Genoa, the Portuguese and the Dutch captured the trade with India, and in 1600, the East India Company obtained a charter from Queen Elizabeth to trade with the East Indies, "not to exchange as far as possible the manufactured goods of England for the products of India but to carry the manufactures and commodities of India to Europe." "At the end of the 17th century great quantities of cheap and graceful Indian calicoes, muslins and chintzes were imported into England and they found such favour that the woollen and silk manufacturers were seriously alarmed. Acts of Parliament were passed in 1700 and 1721 absolutely prohibiting with a very few specified exceptions, the employment of printed or dyed calicoes in England, either in dress or in furniture, and use of any printed or dyed goods, of which cotton formed any part."[2] By Act 11 and 12. William III, Chapter 10, it was enacted that the wearing of wrought silk and of printed and dyed calicoes from India, Persia and China should be prohibited, and a penalty of £200 imposed on all persons having or selling the same. Similar laws were enacted under George I, II and III. Thus, during the major part of the 18th century, Indian manufactures were imported into England only in order to be sold on the continent, but were excluded from the English market itself by law.[3]

In the meantime between 1760 and 1820, vast economic changes that are associated with what is briefly called the Industrial Revolution were brought about by the discovery of the process of smelting iron with coal, of the spinning jenny by Hargreaves, of the spinning machine by Arkwright and of the power loom worked by steam. But more potent than all these inventions, the driving force that brought about these changes, was the influx of Indian treasure which added considerably to England cash capital. "In themselves inventions are passive, many of the most important having lain dormant for centuries, waiting for a sufficient store of force to have accumulated to set them working. That store must always take the shape of money."[4] It was obviously the hoards of Bengal that began pouring into England after 1757 that contributed to

[1] Industrial Commission Report, pp. 2-3.
[2] Lecky, "History of England in the 18th Century."
[3] Marx, "The East India Company," in *'New York Daily Tribune'*, July, 11, 1853.
[4] Brooks Adams, "The Laws of Civilisation and Decay," p. 260.

that economic transformation of England which made it in the 19th century the pioneer of industrialism. As Brooks Adams observes: "Before the influx of the Indian treasure and the expansion of credit which followed, no force sufficient for this existed ; and had Watt lived fifty years earlier, he and his invention must have perished together."[1] In the 18th century, Colonies were looked upon as plantations whose raw produce was to be utilised by the mother country for the manufacture of finished goods which could be re-exported to the Colonies and to the rest of the world. The American War of Independence put an end to this policy of economic exploitation so far as the Colonies were concerned. Africa and Australia in the 19th century were left to work out their own economic life without much interference from the mother country. But of more vital importance than these Colonies was the dependency of India, which was converted into a store house of raw materials. India became in the 19th century a plantation, "growing raw produce to be shipped by British agents in British ships, to be worked into fabrics by British skill and capital, and to be re-exported into India by British merchants to their corresponding British firms in India and elsewhere."[2]

The policy pursued by the East India Company is clearly reflected in a letter from the Directors to Bengal dated 17th March, 1769 : "The Company desired that the manufacture of raw silk should be encouraged in Bengal, and that of manufactured silk fabrics should be discouraged. And they also recommended that the silk winders should be forced to work in the Company's factories and prohibited from working in their own homes." In another letter written a few years later, the Directors observed, "This regulation seems to have been productive of very good effect, particularly in bringing over the winders to work in the factories. Should this practice (the winders working in their own homes), through inattention, have been suffered to take place again, it will be proper to put a stop to it, which may now be more effectively done by an absolute prohibition under severe penalities by the authority of the Government." "This letter," observed the Select Committee on the Administration of Justice in India, 1783, "contains a perfect plan of policy, both of compulsion and encouragement which must in a very considerable degree operate destructively to the manufactures of Bengal. Its effects must be to change the whole face of the industrial country, in order to render it a field for the produce of crude materials subservient to the manufactures of Great Britain."[3]

[1] *Ibid.*
[2] Ranade, "Essays in Indian Economics," p. 106.
[3] Quoted in Land Revenue Commission Report, Bengal, Vol. II, 1940, p. 324.

19th Century Changes in the Economic Life of India

After the opening of the Suez Canal, British manufactured goods streamed into India and other, Oriental countries. England had become the workshop of the world. The technical transformation of the means of transport and communication broke down the economic isolation of all other countries. The spinners and weavers of India had to face the alternatives between gradual destruction of their industry and the adoption of the new technique. The Indian industrial workers found it increasingly difficult to keep their hold over the home market with their outmoded instruments of production.

If India was to keep pace with the new era of technical development, it was necessary that the old economic organisation should have been adjusted to the new conditions. The existing productive apparatus should have been carefully replaced by a new productive apparatus. But though the dissolution of the old organisation proceeded unhindered in the first half of the 19th century, the process of adjustment did not begin ; at the same time the dissolution of the old order remained incomplete. The framework of the old order with 500,000 vilages still remains. Urbanisation based on industries is still far from being achieved. The introduction of railways intensified the economic confusion. The transport system of India, instead of co-ordinating the economic life of the country, commercialising its agricultural resources and developing its industrial opportunities, grew up as an anomalous unco-ordinated system, partly the result of military considerations, partly prompted by administrative and commercial reasons. The development of railways in India served a double purpose. In the first place, it created a market in India for the manufactures of the newly developed iron and steel and engineering industries of England, and, secondly, it facilitated the carrying of raw materials from inland centres to the harbours, and of manufactured goods from the harbours to inland centres. Instead of assisting in the evolution of a sound economic life, the railways in India sank old towns into oblivion or " resurrected them as mere distributing centres ", " hastened the disintegration of the old economic system ", kept the 500,000 villages entirely cut off from the zones of economic progress, and destroyed the stability of old industrial centres without balancing the loss by the creation of new industrial areas.[1] As late as 1928, the Agricultural Commission had to admit that " most of the 500,000 villages have not yet been touched by metalled road or railway."[2]

[1] T. N. Ramaswamy, "The Economic Problem of India," 1942, p. 130

[2] Agricultural Commission Report, p. 5.

Without belittling the advantages of railways, it must be stated that the main effect of the railway expansion of India was to facilitate the transport of goods to the harbours. The railway rates, moreover, were so contrived as to favour the transit of goods to and from the harbours, rather than to favour the development of Indian industries, and foster a many-sided internal trade.[1]

The economic changes which India has experienced during the last hundred years are better described as a commercial rather than an industrial revolution. Relative to the great size of the country and its numerous population, factory industry was still very small, especially upto the last Great War. The opening of the railways and the development of inland and foreign commerce have brought specialisation in such commercial crops as cotton, jute, oil seeds and tea. Whereas the raw agricultural products of the villages were formerly made up by local craftsmen for local use, more specialised products have come to be exported in exchange for factory made goods. "The railways and steamships have made it possible for European power manufacturers to offer the Indian farmers much better terms than the Indian village craftsmen could give. Self-sufficing local economy has been displaced by international specialisation and trade, much to the discomfiture of the Indian craftsman."[2]

This commercial revolution, as Buchanan calls it, brought with it undoubtedly an expansion of commercial crops in agriculture, but it was mostly the pressure of economic environment rather than the obtaining of better terms that led to this expansion, achieved sometimes at the cost of the diversion of land under food crops, if not at the cost of curtailment of the volume of production. Moreover, the capital in the hands of the village traders was insufficient to finance the cultivation and the ordinary movements of crops ; this lack of available capital compelled the

[1] It is interesting to observe a parallel phenomenon in Africa. "What internal African commerce really needed was a system of roads to link up the petty centres of trade and industry, and to facilitate the exchange of agricultural products grown on a small scale. But it was not the well-being of African agriculturists that was the primary purpose of those who were responsible for pushing on with the construction of railways. They had as their objects the tapping of the various mineral deposits . . and the placing on the world markets of agricultural produce grown at cheap rates, owing to the command of cheap native labour. Fundamentally the railways acted as great drains, carrying away the resources of the interior and giving practically nothing in return. They were constructed, on the whole, in the interest of their termini and not on those of the lands through which they passed." A. G. Russell, "Colour, Race and Empire", 1944 pp. 250-51.

[2] Buchanan, "The Development of Capitalist Enterprise in India", 1934 p. 130.

ryots to borrow at high rates even for their ordinary needs like the purchase of seeds. "The position of the peasant farmer, with grain seeds, or cotton to sell, and at the same time heavily indebted to his only possible purchaser, effectively prevents him from obtaining a fair market price for his crop."[1]

The craftsmen and artisans of the earlier days had their place in a village economy where they exchanged their products on a customary basis for the food and raw materials necessary for their occupations. This balanced economy was disrupted by the substitution of specialised products in agriculture intended for export rather than for domestic exchange.

Till 1813 India had been chiefly an exporting country. From then onwards it became suddenly an importing country. This transformation took place so rapidly that already in 1823 the rate of exchange which had generally been sh. 2/6d per rupee sank to 2 shillings. As Marx observes : "India, the great workshop of cotton manufacture for the world since immemorial times, became now inundated with English twists and cotton stuffs."

In 1813, Indian cotton manufactures were liable to the following charges in England :—[2]

	£	s.	d.
Calicoes and dimities (for every £100 of value) ..	81	2	11
Cotton raw (per 100 lbs.)	—	16	11
Cotton manufactured (per 100 lbs.) .	81	2	11
Hair or goat's wool manufactures per cent.	84	6	3
Manufactures of flowered or stitched muslins of white calicoes (for every £100 of value)	32	9	2
Other manufactures of cotton not otherwise charged .	32	9	2

These burdensome charges were subsequently removed, but only after the export trade in them had been destroyed. In 1853, the total exports to India from Great Britain and Ireland were £8,024,000, out of which cotton goods alone amounted to £5,220,000—more than ¼ of the foreign cotton trade. Cotton manufacture in Britain at that time employed 1/8th of the population and contributed 1/12th of the whole national revenue.

The phenomenal rise in the exports from England to India may be judged by the fact that between 1818 and 1836 the twist imports into India rose in the proportion of 1:5200. In 1824 the exports of British muslin to India hardly amounted to one million yards. By 1837 they

[1] Industrial Commission Report, p. 5.
[2] Digby, "Prosperous British India," p. 90.

exceeded 64 million yards. At the same time the population of Dacca, world famous for its muslins decreased from 150,000 inhabitants to 20,000. Apart from inundating "the very mother country of cotton with cottons," the British imports into India "uprooted over the whole surface of Hindusthan the union between agricultural and manufacturing industry."[1]

The historian, H. H. Wilson, observes in this connection : "It was stated in evidence (in 1813) that the cotton and silk goods of India upto the period could be sold for a profit in the British market at a price 50 to 60 per cent lower than those fabricated in England. It consequently became necessary to protect the latter by duties of 70 and 80 per cent on their value, or by positive prohibition. Had this not been the case, the mills of Paisley and Manchester would have stopped in their outset. . . . They were created by the sacrifice of the Indian manufacture. Had India been independent, she would have retaliated, would have imposed prohibitive duties upon British goods, and would thus have preserved her own productive industry from annihilation. This act of self-defence was not permitted to her ; she was at the mercy of the stranger. British goods were forced upon her without paying any duty, and the manufacturer employed the arm of political injustice to keep down and ultimately strangle a competitor with whom he could not have contended on equal terms."[2]

The effects on small industries in India, resulting from the imports of cheap machine-made goods, was far from beneficial. Petty articles of domestic use like scissors, mirrors, bangles and vessels of iron, brass and copper, imported from abroad command a ready sale and have thrown back the village craftsmen and artisans on the land as landless labourers. In the course of the last 70 years, there has been an increasing land hunger, the pressure on the land has definitely grown as evidenced by the following table :—

Area of cultivated land per person dependent upon agriculture					
Year	1901	1911	1921	1931	1941
Acreage	1.28	1.24	1.21	1.08	1

The overthrow of the occupational equilibrium of the population is also evidenced by the fact that whereas in 1872 the total number of dependents on agriculture was 61 per cent of the entire population, in 1921 it was 73 per cent ; and if the same method of counting had been pursued by the census authorities in 1931, it would have been found to be nearly 75 per cent. The same tendency to increasing ruralisation

[1] Marx, "British Rule in India," in *'New York Daily Tribune'* January 25, 1853.

[2] Quoted in Land Revenue Commission Report, Bengal, Vol. I, p. 325.

becomes apparent in the negligible increase in the urban population, an increase of about four per cent in 70 years between 1871 and 1941. The economic history of India from 1770 to 1870 is the history of the dislocation of India's balanced economy, the ruralisation of her population, the progressive decay of her handicrafts and village industries. In short, the old industrial structure was shattered without being replaced by a better organisation.

Growth of Industries upto the Eve of World War I

The period 1850-55 saw the establishment of the first cotton mill and jute mills and coal mining industry. To the same period belongs the first introduction of railways. A short line was started in Bombay, and two others in Howrah and Madras. By 1865 there were ten cotton mills in Bombay City, three more in the Presidency. It has been said that the fears inspired by the Mutiny led Government to construct 3,000 miles of railway by 1865. Two jute mills were working with 950 looms by the end of the same year. By 1877 the number of cotton mills rose to 51 in the whole of India with a million and a quarter spindles and over 10,000 looms. By 1878 the number of jute mills increased to eighteen, coal production amounted to 1,000,000 tons per year, and railways had a mileage of 8,000. By 1890 there were 26 jute mills employing 62,000 workers ; and coal production and railway mileage doubled again. The remarkable development that took place in foreign trade between 1860 and 1890 has been explained partly by the institution of free trade, partly by the opening up of the country by railways and by the change in habits of the people which accustomed them to purchases on a cash basis in the rural areas.

Whilst in this way the foundation for the development of modern industries and for the utilisation of our coal and iron resources were laid by the early years of the present century, the transformation of India at the same time into a supplier of food and raw materials to Britain and other countries was achieved at the cost of the ruin of millions of our artisans. By 1900 India had become a great exporter of rice, wheat, cotton, jute, tea and oil seeds, and an importer of British manufactured goods. "The construction of an extensive network of railways during the latter part of the century was perhaps the most important single factor in this transformation of India into an agricultural colony of British industry, since it made possible the commercial penetration of the country by British goods and also the large-scale production and export of raw materials."[1] It is equally significant that Bri-

[1] Kate Mitchell, "Indunstrialisation of the Western Pacific," 1942, p. 280.

tish investments in modern industry in India were confined exclusively to enterprises like railways, coal mines, jute mills and to tea, coffee and sugar plantations—industries related to the production and export of raw materials.

The Swadeshi Movement of 1905, which arose at this time partly as the result of non-economic causes, stimulated Indian hand industries and led consumers to prefer Indian products. The Movement became stronger after the Civil Disobedience upheaval as the Indian National Congress emphasised the importance of preferring Indian products all round. There was a slow but steady growth in the field of existing industries as well as the establishment of new industries between 1890 and the outbreak of the war of 1914. "Cotton spindles more than doubled, cotton power looms quadrupled, jute looms increased four and half times and coal raising six times, while the extension of railways continued at the rate of about 800 miles per annum."[1] The average daily number of operatives in factories increased from 316,000 in 1892 to 869,000 in 1912 and 951,000 by 1914. But, "prior to the war certain attempts to encourage Indian industries by means of pioneer factories and Government subsidies were effectively discouraged from White Hall."[2]

The following tables indicate the trend in our industrial development to the eve of the first World War :—[3]

Cotton Textile Industry

	1879-80	1889-90	1900-01	1913-14
No. of Mills	58	114	194	264
No. of persons employed	39,537	99,224	156,355	260,847
No. of Spindles	1,407,830	2,934,637	4,942,290	6,620,576
No. of Looms	13,307	22,078	40,542	96,688

Jute Industry

	1879-80	1889-90	1901-02	1913-14
No. of Mills	22	27	36	64
No. of persons employed	27,494	62,739	114,395	216,288
No. of Spindles	70,840	164,245	331,382	744,289
No. of Looms	4,946	8,204	16,119	36,050

Coal Industry

	1885	1901	1914
No. of persons employed	22,745	—	151,376
Output (tons)	1,294,221	6,038,053	15,738,153

[1] Buchanan, op. cit. p. 139.

[2] Moral and Material Progress of India, p. 144.

[3] Gadgil, "Industrial Evolution of India,", 1944, pp. 76-78, 107, 110.

Development During 1914-18

The war of 1914 created enormous demands for factory goods in India ; imports from Europe fell off, and the war requirements of the Allies increased. The latter included iron and steel, jute and leather and woollen goods. The textile and jute industries made enormous profits and frittered them away in dividends instead of setting them apart for future replacements and development. During the war, Provincial Departments of Industries were established in each major province. The war, moreover, brought home to the rulers the extent of India's dependence on imports from abroad for plant and machinery. It changed to some extent the British attitude towards industrialisation in India. The failure to develop the basis of heavy industry in India and the necessity of depending for military supplies on the long overseas route had weakened Britain's fighting strength. It was also felt that the growth of industry within India was better than foreign competition in India which was affecting British imports into India. There was a desire to enlist the support of Indian capitalists in the war by concessions in favour of Indian industries.[1] The establishment of the Munitions Board and the appointment of the Industrial Commission were pointers in this new direction.

During the war period, the cotton and jute mills worked at full capacity and made huge profits. Steel production increased from 19,000 tons in 1913 to 124,000 tons in 1918. Due to the cutting off of imports from abroad, the production of some consumers' goods was also developed ; but the lack of basic industries prevented us from taking full advantage of the temporary protection granted by the war to various industries.

Thus during the war of 1914-18, the rulers began showing a new interest in fostering a few key industries in India, perhaps under the fear that the Empire might otherwise be endangered. Once this fear was gone, even the halting proposals of the Indian Industrial Commission were shelved. Thus it has not been incorrectly observed that the last war, " beyond affording temporary gains to a few established industries, did nothing to set the country firmly on the road to industrialisation. After 1918, the few industries which had been established on account

[1] Cf. "The possibility of sea communications being temporarily interrupted forces us to rely on India as an ordnance base for protective operations in Eastern theatres of war. Nowadays the products of an industrially developed community coincide so nearly in kind though not in quantity with the catalogue of munitions of war that the development of India's natural resources becomes a matter of almost military necessity." Montague-Chelmsford Report on Indian Constitutional Reforms, p. 213.

of the war either stagnated or decayed ; they could not face the competition of advanced industrial countries."[1]

Post-War Industrial Development to 1939

During the period immediately following the end of the War, large amounts of British capital were attracted to India. The leading Cotton Mills in Bombay paid 120 per cent by way of dividends. The reports of 41 British controlled jute mills with a total capital of £6 million showed profits of nearly £23 million in the four years 1918-21, in addition to £19 million carried to Reserve Funds. British capital was naturally eager to share in these colossal profits. The annual export of British capital to India increased from £14.7 million or 9 per cent of the total in 1908-10 to £29 million in 1921 and £36 million in 1922, or more than one-fourth of the total British exports.[2]

The post-war history of industrial development in India like the pre-war history is marked by the complete lack of any consistent policy. The Fiscal Commission in 1922 recommended a policy of discriminating protection which was accepted by the Government in 1923. A number of industries like steel, cotton, sugar, paper and matches were granted protection. In a number of consumer goods like sugar, matches and cement (which was not given any protection), the country has reached self-sufficiency. The change in the content of the external trade of India also reflects the same trend, namely, a falling off of imports of consumption goods, like sugar, matches and cement, and an increase in the imports of machinery, raw materials like dyes and paints and optical goods.

In 1918-19, the number of registered companies was 2,713 with a paid-up capital of about Rs. 106 crores which rose to 4,781 with a paid-up capital of Rs. 223 crores in 1921-22.[3] The post-war boom ended by 1920 and the depression which followed hit the Indian industries hard. These hardships were increased by increasing foreign competition and the currency policy of the Government. Many Indian companies founded during the boom period became bankrupt and even the Tata Iron and Steel Co. was in trouble. Its share of Rs. 100 was quoted at Rs. 10 in 1926, and the company was forced to resort to the London money market for the floatation of debentures of £2,000,000.

From 1927 onwards the predominating character of the Indian tariff system has been Imperial Preference, which gave British products an

[1] Lokanathan, "Industrialisation," Oxford Pamphlets on Indian Affairs No. 10, 1943, pp. 6-7.
[2] Kate Mitchell, op. cit. p. 284.
[3] Gadgil, op. cit. p. 243.

advantage over both non-empire and Indian production in the Indian market. In 1932, under the Ottawa Agreements, Imperial Preference was thrust upon India in the face of an adverse vote in the Indian Legislative Assembly. "In this way the tariff system of the early twenties, originally proclaimed as a means for accelerating Indian industrialisation, was transformed into a system which assisted British industry to compete in the Indian market, while giving India in return the privilege of favoured rates for the sale of her raw materials and semi-manufactures in the British market—an obvious attempt to revert to the pre-1914 status."[1] The clash of interests between British and Indian industrialists found fresh expression in the Indian Legislative Assembly when the Trade Agreement between England and India of 1935 extending the principles of the Ottawa Agreements was defeated by a vote of 66 to 58. This vote was overriden by the Government, and a similar fate attended a vote of the Assembly rejecting the Trade Agreement of March, 1939.

During the period of depression, 1929-33, the value of Indian exports fell from 339 crores of rupees to 135 crores ; the value of imports from 260 to 135 crores. The payment of home charges and debt interests had to be met by gold exports which totalled £241 million for the seven years 1931-37. Miss Kate Mitchell not incorrectly remarks in this connection, "This gold drain from the past savings of the masses of the Indian peasantry meant a still further impoverishment of the Indian market and a corresponding depression of Indian industry."[2] The following table reflects the changes that have taken place during 1922-39 in the production of a few leading industries in the country :—[3]

	1922-23	1938-39
Cement (in tons)	193,00	1,170,000
Coal (in millions of tons) . ..	19	28.3
Cotton piecegoods (in millions of yards)	1,713.5	4,269.3
Jute piecegoods (in millions of yards) ..	1,187.5	1,774
Matches (in millions of gross boxes) (1934-35)	16.5	21.1
Paper (in tons)	23,576	59,198
Pig iron (in tons)	455,000	1,575,500
Sugar (in tons)	84,000	1,040,000
Sulphuric acid (in cwts.)	529,600	607,000
Steel ingots (in tons)	131,000	977,400

There can be no doubt that in spite of the difficulties and obstacles which India had to face, there has been a considerable progress in indus-

1. Mitchell, op. cit. p. 285.
2 *Ibid.*, p. 286.
3 Lokanathan, op. cit., p. 8.

trial development between the first and the second world war. India has been placed as one of the eight leading industrialised countries of the world. The *cotton textile* industry increased its production from 1,164 million yards in 1913-14 to 3,975 million yards in 1938-39. The numbers employed by this industry increased during the same period from 260,000 to 442,000. Another industry which developed to a great extent and which justified the grant of protection and subsidies was the steel industry. By 1932-33 it began to supply nearly three-fourths of the Indian market for steel. The total annual pig iron production increased from 243,000 tons in 1914-18 to 1,495,000 in 1934-38. In spite of all the development that has taken place, the picture of industrial growth between the two wars suggests a slow rate of development, as seen from the figures of workers *employed in industries* returned under the Factory Act. Between 1897 and 1914 the number of industrial workers had increased from 421,000 to 951,000, while between 1922 and 1939, it increased from 1,361,000 to 1,751,000. Even the *Economist* in its survey of Indian industrialisation at the end of 1936 observes "Although India has begun to modernise her industries, it can hardly be said that she is as yet being 'industrialised.'"[1]

There are many in this country who will agree with this verdict of the *Economist* and who not unreasonably regard the result of Indian industrialisation as disappointing. There are many who ask if this country has acquired that balanced economic life, with an improved standard for which the full utilisation of her industrial resources in an industrial age hold out reasonable promise. As Buchanan aptly remarks: "Here was a country with all the crude elements upon which manufacturing depends, yet during more than a century it has imported factory made goods in large quantities, and has developed only a few of the simplest industries for which machinery and organisation had been highly perfected in other countries. With abundant supplies of raw cotton, raw jute, easily mined coal, easily mined and exceptionally high grade iron ore; with a redundant population often starving because of lack of profitable employment; with a hoard of gold and silver second perhaps to that of no other country in the world, and with access through the British Government to a money market which was lending large quantities of capital to the entire world; with an opening under their own flag for British business leaders who were developing both at home and in numerous new countries, all sorts of capitalistic industries; with an excellent market within her own borders and near at hand in which others were selling great quantities of manufactures, with all these advantages

[1] *Economist*, Indian Supplement, London, December 12, 1936.

India, after a century was supporting only about two per cent of her population by factory industry."[1]

The economic situation before the outbreak of the present war may be summed up as follows so far as industrial development is concerned. The expansion of the protected industries has not meant very considerable addition to the total national income. The existence of these industries and their ability to meet the requirements of the internal market cannot be regarded as giving to the country that degree of self-sufficiency which may relieve it of all anxiety about the future, for, whilst we are independent of foreign countries for the supplies of sugar, for cotton goods, and for iron and steel, we are still largely dependent on foreign countries for the offtake of a substantial part of our production of raw materials. What is more important is that we are still dependent on foreign countries for the supply of machinery and other capital goods without which the establishment of new industries would be impossible.

The Outbreak of the War and Indian Industries (1939 and after)[2]

The outbreak of the war in 1939 left the Government of India unchanged in its general attitude towards the development of Indian industries. It was believed that it would suffice for the Government of India to act as it had acted during the course of the last war, by placing large scale orders for sand bags and other military requirements and by securing supplies and foodstuffs and raw materials for the fighting forces. The weakness and insecurity of the industrial structure of India were fully exposed when even such well-established industries like textile, paper and leather which require large quantities of chemicals found their supplies cut off. Their dependence upon imports for such essentials as caustic soda, bleaching powder, soda ash, sodium carbonate, etc. revealed the precariousness of their growth in the absence of the development of a heavy chemical industry.

But the character of the second World War created a far more urgent demand for industrial production than had the war of 1914-18. Japan's entry into the war made it doubly necessary that India should be developed as speedily as possible into an industrial arsenal for the Allied forces. The fall of France, the bombing of British factories and the large scale sinking of British ships, the Japanese penetration into the Southern Pacific demonstrated the dangers to an empire with widely scattered lines of com-

[1] Op. cit. pp. 450-451.
[2] We are indebted to Kate Mitchell's book for a considerable portion of this Section.

munication. India and Australia were chosen as centres of supply. Before the outbreak of the war, for instance, India was entirely dependent on foreign sources for high grade steel, for most of steel manufactures and for all types of machinery. By the end of 1941, however, pig iron production increased from 1,600,000 tons in 1938-39 to 2,000,000 tons. Finished steel production increased from 867,000 tons in 1939 to 1,250,000 tons in 1941 and to 1,400,000 tons in 1942. A programme costing four crores for the expansion of armament works, explosive plants and small arms factories was initiated in 1941. At the end of 1941, ordnance factories were assisted by 250 trade workshops and 23 railway workshops, producing 700 different items of munitions supply. Fifty-four firms were licensed to manufacture machine tools and lathes, drilling, shaping and planing machines, furnaces and power blowers. Over 280 new items of engineering stores were being manufactured in India ranging from small tools and machine parts to heavy calibre guns, torpedo boats and degaussing cables.[1] There was a considerable expansion in the production of drugs, leather manufactures, hardware, glassware, cutlery and optical goods. The beginnings of a heavy chemical industry were made in 1941, resulting in the production of sulphuric acid, synthetic ammonia, caustic soda, chlorine and bleaching powder. The Hindustan Aircraft Company at Bangalore assembled its first plane in August, 1941, from imported parts. It need not be added that India still remains completely dependent upon imported engines in the manufacture of aircraft, of tanks and armoured cars. A general indication of the increase in India's industrial production is to be found in the increase of the value of exports of manufactured articles from Rs. 476,000,000 in 1938-39 to Rs. 812,000,000 in 1940-41.

The Eastern Group Conference, the Report of the Grady Commission and the appointment of a number of technical missions may be regarded as war measures forced upon a reluctant Government which could never contemplate with equanimity an India that would cease to be a supplier of raw materials and a market for finished goods. It was a British engineer, who made a special study of iron resources in India, namely, Sir Guilford Molesworth, who observed as early as 1902 at a public meeting in London : " England, in her dealings with India, has committed the same blunder as she has committed in her dealings with Ireland. . . . She has persistently drained her resources, swamping her with English and foreign production and instead of fostering her industries has handicapped them in every way. . . . Many attempts have been made to revive

[1] Indian Information, October 1st, 1941.

and start afresh iron industries, but they have one and all been crushed out for want of a little fostering protection."[1]

The main object for which the Eastern Group Conference was held in India was to make the countries of the Eastern Group as far as possible self-supporting for war supply purposes. It was expected to lay down a policy for co-ordinating the present and potential resources of the countries forming the Eastern Block with a view to eliminate duplication and wasteful competition. The Conference finished its labours in November, 1940. But whilst the contents of the report must have been known to the leaders of thought in other countries which were parties to the Conference, the report and the recommendations of the Conference have not been published so far in the country in which the Conference was held. Moreover, one of the members of the Conference, Sir Walter Massey Greene, had declared that one of the chief purposes of the Roger Mission was to see that there was no duplication, and what one country was doing the other parts of the Empire should not do. This has been regarded as deliberate hindering of the development of the aircraft industry in India, as Australia was already manufacturing aeroplanes. The Grady Commission that followed (March, 1942) also made an elaborate report on the possibilities of establishment of new industries for which the country is fully equipped. But here again India has never been given an opportunity of getting acquainted with the report and studying its details. What is still more noticeable is the fact that representatives of Indian Commerce and Industries were never fully associated with the work of the Conference or the Commission.

During the first two years of the war, the Government of India continued the traditional policy of supplying Great Britain with available goods and raw materials. Railways were dismantled, wagons and rails and locomotives were dispatched wherever they were needed without any arrangements being made for their manufacture at home. As Dr. Lokanathan observes : "The contrast between India and Australia and Canada has been striking. Starting from an initially worse position than India, Australia increased her steel production rapidly, and within two years was able to manufacture aircraft, wireless and other articles directly through Government effort, and also by inviting British, American and other industrialists to set up factories to replace imports. In Canada the Government created seven Government-owned Corporations, four for manufacturing planes, shells, rifles and instruments, one for procuring

[1] Quoted by Buchanan, op. cit. p. 469.

machine-tools and two for purchasing vital war commodities. In India, even the manufacture of locomotives, already recommended by an expert commitee and for which blue prints were ready, was given up at the last moment on the ground that it was more desirable to import them from abroad."[1]

Similarly, a proposal for the establishment of an automobile industry was placed before the Government of India as early as the year 1936. The former Congress Government of Bombay provisionally promised to guarantee the interest on the share capital of the project for a term of ten years. The promoters of the scheme spent money, energy and time and even entered into an agreement with one of the world's foremost manufacturers. The Government of India after nearly five years of consideration turned down the proposal in December, 1940, on the ground of difficulties created by the war.[2] This was done at a time when the Government of India were not only in urgent need of automobiles of all kinds but were placing orders for the same on a large scale abroad.

There is considerable ground for saying that in spite of the life and death struggle in which Britain has been involved and the utmost importance of industrial production in India, British policy during the early years of the war was opposed to any rapid growth of heavy industries in India controlled and managed by Indians. The Secretary of State for India, reporting in eloquent terms about war efforts in India, told the House of Commons on November 20th, 1940, that "India will soon be self-sufficient in respect of something like 90 per cent of her military supplies." It would appear as a matter of fact that the supplies, in respect of which India was to be self-sufficient, consisted of clothing, small ammunition, foodstuffs, tents and blankets. "By the autumn of 1941, only the smallest beginnings had been made in the development of the metallurgical, chemical and other heavy industries for which India possesses all the necessary raw materials, and nothing had been done to eliminate the twin bottlenecks of lack of machinery and a shortage of skilled labour which continued to cripple India's efforts towards industrial expansion."[3]

The following table shows in index numbers the development in various industries during the War Period :—[4]

[1] Lokanathan, op. cit. p. 15.
[2] Sir M. Visvesvaraya's Presidential Address, All India Manufacturers' Conference, March, 1941.
[3] Kate Mitchell, "India's Economic Potential," in *Pacific Affairs*, March, 1942, p. 23.
[4] L. C. Jain, "Indian Economy During the War," 1944, p. 31.

1938-39=100

	1939-40	1940-41	1941-42	1942-43	Average
Iron and Steel	110*	125*	150*	200*	146
Cotton Manufactures	94	100	153	92	110
Jute „	106	91	103	85	96
Sugar Cane Factories	191	168	120	163	160
Paper	118	149	159	112*	134
Electrical Energy generated	109	115	135	135*	123

It will be observed that the increase in indutsrial output is roughly about 30% during the last five years. With the definite inflationary tendencies that started with the unprecedented issues of paper currency from 1940 it was not unnatural that there should have been a spurt of new company flotations. To check these inflationary tendencies Government resorted to a number of measures including the control of capital issues which was brought into operation from May 1943. Till the end of 1943, 687 applications for starting new industries or expanding existing ones with a capital of Rs. 25 crores were received. The following table of the working of capital issues control from its inception to the end of March 1944 is of some interest :—

Initial Issues	No. of cases disposed of	No. of cases agreed	Total capital asked	Total capital agreed
			(in lakhs of rupees)	
1. Chemical, etc. ..	67	54	273	128
2. Iron, Steel and Engineering	50	39	223	121
3. Transport . ..	95	95	148	148
4. Agriculture ..	38	31	—	116
Further Issues				
1. Chemicals, etc. ..	65	56	189	146
2. Iron, Steel and Engineering	59	55	178	135
3. Transport . ..	21	21	22	22
4. Agriculture	64	57	—	182

Transport and agricultural companies are obviously the "pet preferences" of the sanctioning authorities."[1]

The figures of average daily numbers of workers employed by different industries, recently published in the Indian Labour Gazette, show that the total employment, in perennial and seasonal factories, increased by about 31% from 1939 to 1942, while that in perennial factories alone increased by about 27% during the same period. Making allowance for

* Provisional.
[1] *Eastern Economist*, 17th November, 1944.

the loss of efficiency during the war period due to deterioration of equipment, the continuance of extra-marginal firms in production, etc., the figures of employment might be taken to indicate an increase of not more than 25% in industrial production.[1]

These facts sufficiently bear out the contention that, in spite of the great opportunities presented by the present war, we have not been able to make any rapid advance in industrial development, partly because of the Government's lukewarm attitude, partly because of disabilities like the absence of basic industries, e.g. chemicals and machinery. The step-motherly treatment of India in this respect can be compared with the developments in Australia of the corresponding industries.

During the war the Government of India worked out a scheme for training 48,000 industrial workers by March, 1943. The Bevin scheme provided for an intensive course of training of Indian workmen in British factories. The Government of India appointed a Board of Scientific and Industrial Research with Sir S. S. Bhatnagar as President in 1940 with a grant of Rs. 5 lakhs for research in the Alipore laboratory. The financial position of this Board has been strengthened by the creation of a special Industrial Research Fund in 1941 with annual grant of Rs. 10 lakhs for a period of five years. An Industrial Utilisation Committee has also been appointed for the purpose of fostering industrial development. The Grady Commission recommended plans for importing essential machinery and rationalising of engineering workshops. The Government of India has also given an assurance that it will protect certain industries against competition after the war. We may have grounds, however, for refusing to rely upon such assurances in view of the plans for international economic reconstruction adumbrated by Churchill and Roosevelt which contemplate the subordination of national interests, dubbed selfish, to world interests, that is, the 34 Allied Nations dominated by Great Britain and the U.S.A.

Concluding Remarks

Writing about the economic development of India in a recent publication, Dr. Anstey observes : "The recent expansion of industrial output owing to the protective policy has been achieved at the expense of the cultivators who have to pay for what they have to buy, and who are dependent on world prices for what they sell. My own conclusion is that India cannot expect to proceed far or fast upon the road of large scale industrial development and that intensification of protection would

[1] Gadgil and Sovani, "War and Indian Economy," 2nd ed., 1944, p. 123.

merely increase the profits of a small section of the population at the expense of the masses."[1]

This view which is representative of British economic thought in reference to India fails to take into account two considerations : (1) that every country considers it desirable to secure an occupational equilibrium for its population, and (2) that the prosperity for the agricultural classes in India is largely dependent on the increased purchasing power, which the growth of industries might make possible. The concern for the masses of the rural population has not been put forward for the first time by economists belonging to a country that has changed over from protection to free trade and from free trade to protection according to changes in its economic environment.

It seems that, in spite of the strain and stress of the war, Great Britain is still dominated by economic interests in her relations with India. This is not only borne out by the differential treatment of Canada and Australia but by her policy in the matter of our aircraft manufacture, the automobile industry and shipbuilding. In November, 1940, Mr. Santhanam pointed out in the Legislative Assembly that Indian interests had offered at the outset of the war, to construct an aircraft factory without any Government subsidy, but that the project had been delayed for fifteen months by the Government's refusal to agree to buy planes.[2] Mr. Santhanam further stated that proposals about building up the shipping industry in India were made, but the Board of Trade in England had definitely said that they would not render any help in the promotion of shipbuilding in India as a part of war effort.[3] With regard to automobile manufacture, Sir M. Visvesvaraya, representing a group of leading manufacturers accused the Government of making a twenty-five year contract with an American firm, and obstructing the construction of an Indian automobile plant. The Government of India, in reply to these charges, issued a communique in December, 1940, declaring that the Government were " very sympathetic " to these projects, but that there were " considerable difficulties " in the way of their attainment. Even as late as May, 1942, in reply to the questions regarding aircraft industry the Government spokesman replied in the Assembly that Government confidently hoped that the air factory will complete its programme of fighter and bomber construction before the end of the present calendar year.[4] We have not yet heard of this hope being fulfilled.

[1] O'Malley, op. cit., pp. 292-3.
[2] Kate Mitchell, op. cit., p. 22.
[3] Legislative Assembly Debates, Vol. IV, Nov. 1940, p. 405.
[4] *Ibid.*, Vol. I and II, 1942, p. 651.

The Grady Mission found that "India's metallurgical resources were largely unused. . . . The Indian industries that had been developed were operating largely on a business-as-usual basis, and no Government agency existed to convert them to war work. . . . The lack of skilled labour was not a major barrier to industrial development." The Grady Mission pressed for India's full development and met with considerable resistance. There was a tension between the British and American Governments, and the rivalry of British and Indian manufacturers in India.[1]

We have ample raw materials, adequate supplies of labour ; the war has given a powerful stimulus to the development of industries. If in spite of the favourable environment created by the war, and in spite of all the advantages we enjoy, we still lag behind in large scale industrial enterprise, we might well be excused if we look for the causes of our economic and industrial backwardness in the lack of power to control our own economic destinies.

The economic evolution of India from the days of the East India Company can be briefly summarised in terms of capitalistic development as under. The development of merchant capitalism in England found expression in the establishment of various trading companies, notably the East India Company, which from the early days of its activities in our country was instrumental in exporting from India those goods which offered handsome profits. Then followed the Industrial Revolution, largely financed by Indian funds, which transformed the merchant capitalism of earlier days into an industrial capitalism. The new situation thus created had its repercussions on India which by this time had been brought under the political control of England. A series of Reform Acts which culminated in the abolition of the trade monopolies of the East India Company, and ultimately in the transfer of the government of India from the Company to the Crown, contributed to the growth of a foreign trade which provided raw materials for British factories in return for British manufactures imported into India. Our balanced economy was upset ; transport facilities helped the development of foreign trade by opening up the whole country for commercial penetration ; and vast accumulations of British capital—the result of heavy tribute drawn from India in the shape of industrial profits—began to flow into India for investment in railways and plantation industries. Banking based on British lines afforded facilities for foreign trade. The development of railways is associated with that of industries. As Marx had predicted : "When you have introduced machinery into the locomotion of a country,

[1] Michael Straight, "Make This the Last War," 1943, pp. 131-132.

which possesses iron and coal, you are unable to withhold it from its fabrication ; you cannot maintain a net of railways over an immense country without introducing all those industrial processes necessary to meet the immediate and current wants of railway locomotion, and out of which there must grow the application of machinery to those branches of industry not immediately connected with the railways. The railway system will, therefore, become in India truly the forerunner of modern industry."[1]

The development of modern industries in India began with the plantation industries like jute, tea, coffee. The Indian bourgeoisie which had in the first phase confined itself to foreign trade and merchant capitalism[2] now took to the development of the textile industries and ushered in the phase of industrial capitalism. In England, finance capitalism had by this time replaced industrial capitalism, and attracted by the prospects of huge profits to be made in India by the development of industries, foreign and more particularly British capital found scope for investment in Indian industries. It has been a struggle for indigenous capital to establish itself against the inroads of foreign capital. The outbreak of the last World War, the stimulus of the Swadeshi movement and the adoption of a policy of discriminating protection have led to the development of Indian industries, widening the sphere of employment of indigenous capital. The feature that calls for attention in the economic development of India is that in spite of the limited industrialisation in our country, finance capitalism is rapidly replacing industrial capitalism and our industries to-day are in the grip of finance capitalism—Indian as well as foreign.

[1] "The Future Results of British rule in India," *New York Daily Tribune*, 8th August, 1953.

[2] The growth of capitalism can be traced through three definite phases: (1) merchant capitalism, the first phase, in which capital plays a vital part in the commercial sphere and particularly in foreign trade. The merchant is the capitalist ; (2) industrial capitalism, the second phase, brought in with the Industrial Revolution. The ground for this had been prepared by the commercial revolution of earlier period. In this epoch, the industrialist employs his own capital in the manufacture of goods. The key note of this phase is "free competition." This phase ultimately evolves into monopoly capitalism, when the financier becomes separated from the industrialist, giving rise to (3) finance capitalism, the third phase, in which the financiers lend money to the entrepreneurs for industrial purposes. In this phase, finance instead of being a servant of industry becomes a master and the financier exercises all control. Thus, "free competition" of the period of industrial capitalism, which replaced feudal monopoly and monopoly of merchant capital, becomes gradually transformed into finance capital monopoly.

CHAPTER XVIII

THE PRINCIPAL ORGANISED INDUSTRIES

The Cotton Mill Industry

The industries of India, apart from agriculture can be conveniently considered under two heads, according as they are small-scale industries, hand-operated, or large-scale industrial concerns with power driven machinery. The total number of factories increased from 10486 in 1939 to 10900 in 1940 and 12527 in 1942 according to the returns of the Factory Act. The following table shows the number of workers :—[1]

Average daily number of operatives

1938	1,737,755	1941	2,156,377
1939	1,751,137	1942	2,282,237
1940	1,844,428	1943	2,437,246

The Cotton Mill Industry

The old Cotton industry of India has had an honoured history but this was primarily based upon excellence of workmanship. The first products were made from raw staple of the very highest quality. Cotton cloth was one of the products which appealed to the Western countries from early times. Cotton grown in America fed the Lancashire mills in the days when the industry was revolutionised by power machinery. In 1895, that is, some time after the establishment of the Cotton Industry in India, along with the import duties at the rate of 5 per cent on all cotton piece-goods and cotton yarn above 20 counts, a countervailing excise duty of 3½ percent was levied in India. The excise duty, according to the then Finance Member, Sir James Westland, "was recommended to us by superior order—an order which we are obliged to obey." So far as our cotton industry is concerned, Lancashire influence has made itself felt in the past to a considerable extent. In a letter to the London *Times* of June 2nd, 1908, Lord Curzon observed, "Ever since India was ordered to abolish her customs tariff in 1875, it has been in the main in response to Lancashire pressure that the successive readjustments of this policy have been introduced." The excise duty which was "politically, economically, and above all morally indefensible" and which was considered in India as "imposed out of fear of the Lancashire votes" was finally abolished in December, 1925.[2] As Buchanan observes, "For India, cot-

1 *Indian Labour Gazette*, August, 1943 and September, 1944.
2 London *Times*, 5th March, 1917, quoted by C. N. Vakil, in "The Industrial Policy of India," 1933, p. 43.

ton manufacture is ancient glory, past and present tribulation, but always hope."[1]

The Government of India has always been interested in the problem of improving Indian cotton. For a long time it was American cotton that supplied the demand for Lancashire, as the U.S.A. cotton crop yielded more than 200 lbs. of cotton per acre as compared with the Indian yield of about 100 lbs. per acre. In 1917, the Government of India appointed a Cotton Committee to investigate into the possibilities of growing long staple cotton in the country. It reported that "India cannot, for at least ten years, grow cotton in any large commercial quantity of a staple longer than 1 1/16th of an inch." Even this hope of the Cotton Committee was not realised. In 1926, we produced only about six per cent long staple cotton in terms of the total crop. In 1932, eighteen per cent of the total cotton crop was classified as long staple.

Indian cotton, however, though it ranks at the bottom of the list with Chinese cotton in length of staple, and though the Indian fibre is at present unfit for spinning yarns finer than 30 counts, has provided for all the requirements of the Indian cotton industry. The Indian mills use limited amounts of longer staple cotton in the production of finer counts, which are imported from Egypt and Uganda. It is significant that Japan which has been a purchaser of Indian cotton during recent years has built up a large industry by mixing Indian cotton with a percentage of American or Egyptian cotton.

India to-day is one of the leading countries of the world in the cotton industry. "She ranks fifth in the number of spindles, fourth in the quantity of raw cotton consumed, third in the number of persons employed and second in raw cotton production."[2] The cotton mills still employ a large number of Englishmen as technicians and managers but they have been developed largely by Indian enterprise and Indian capital. The following tables show the development of cotton industry during the last 60 years :—

Year	No. of mills	No. of spindles (in 000's)	No. of looms	No. of persons employed
1880-84 .. .	63	1,611	14,500	51,000
1910-14	257	6,406	88,100	243,800
1936* . .	379	9,857	200,000	418,000
1939 . ..	389	10,059	201,000	441,000
1941	390	9,961	199,000	460,000
1942	396	10,026	200,000	480,000
1943	401	10,131	201,000	490,000

[1] Op. cit., p. 194.
[2] *Ibid.*, p. 199
* Figures upto 1936 include Burma.

Year	Total Cloth Production in Indian Mills in millions of yards	Year	Total Cloth Production in Indian Mills in millions of yards
1912 ..	1,136	1940 ..	4,065
1922 ..	1,731	1941 ..	4,531
1932 ..	3,170	1942 ..	4,025
1936 ..	3,572	1943 ..	4,748 (Provisional)

The chief development of cotton manufacturing has been in the West, centring in the Bombay Province, especially in Bombay City. Outside Bombay City, the chief centres of the industry in the Province are Ahmedabad and Sholapur. Important factories are also to be found in the Central Provinces, Madras and Bengal. In the early stages of the development of the industry, Bombay City was the centre, as the mills produced yarn which was exported to China. Raw cotton was detained in the port only long enough for spinning, and was then exported as yarn. Moreover, mill machinery had to be imported from abroad, and the difficulty of transporting heavy machinery to places outside the reach of the railway system determined the localisation of the industry in port towns like Bombay and Calcutta. Even the spare parts of the mill machinery were not locally available in the early days and had to be imported from abroad. Coal and steam power were not easily available outside the areas served by the railways. The cost of carrying coal from the pit-head to places, where it was required, compelled the factories to depend on imported coal. The relatively greater centralisation of the cotton industry in Bombay can also be accounted for, when we remember that Bombay enjoys a more favourable position as compared with other centres in regard to markets like East Africa and Sudan.

A larger amount of capital is invested in cotton than in any other Indian factory industry. The total paid up capital of the industry in August, 1941, amounted to Rs. 44 crores 77 lakhs, as compared with Rs. 43,62 lakhs in August, 1940.[1] 99 per cent of its total capital is said to be in Indian hands. It has been estimated that between 1902 and 1916 the Bombay mills, besides paying agents' commissions and allowing for depreciation, were able to pay on an average 11 to 12 per cent on the share capital as dividend. War and post-war profits were high. From an article contributed by Mr. J. A. Wadia in the *Times of India* in December, 1926, it would appear that for the twenty-one years ending December, 1925, the gross profits of ten Bombay mills including agents' commissions averaged 38.8 per cent.

[1] See Indian Cotton Textile Industry Annual, edited by M. P. Gandhi, 1942.

Imports of Piecegoods

The development of the cotton industry in England turned India from being an exporter of hand-made cotton goods to Europe into an importer of cotton goods after 1830. Between 1840 and 1858 imports of cotton yarn and cotton cloth into India constituted from one-half to two-thirds of the total value of her imports ; mostly these imports were from the United Kingdom. In spite of the development of the industry in India. British imports, particularly of cloth, increased until in 1913-14 they were over 3,000 million yards or 2½ times India's own mill production. From 1890, however, the Indian cotton mills had captured some part of the home and the Near East markets. With the outbreak of the war, 1914, the exports of the United Kingdom fell off. Cotton spindles in Japan, China and India together more than doubled as shown by the following table :—[1]

	1914	1930	Increase
Japan	2,414,544	6,837,000	4,422,456
India	6,397,142	8,807,000	2,409,858
China	300,000	3,699,000	3,399,000
Total	9,111,686	19,343,000	10,231,314

In the five years, 1897-1901, Indian mill-made cloth constituted only ten per cent of the total internal cloth consumption, as compared with 27 per cent woven on hand-looms and 63 per cent imported. In the five years, 1920-25, Indian mill-made cloth supplied 38 per cent of the internal demand, as compared with 29 per cent woven on hand-looms and 33 per cent imported. In 1931-32, the percentages were 56.6 for the mills, 29.7 for the hand-looms and 13.7 for imports. In 1940-41, the percentages were 64.7 for the mills, 28 for the hand-looms and 7.3 for imports.

So far as outside markets are concerned, Indian mills have been gradually eliminated. On the other hand, during the last twenty years, they have had to meet new foreign competition within their own borders. Whereas in the earlier days the imports were mostly of high grade goods from England, coarser and relatively finer goods from Japan and China gradually found their way into the Indian market, particularly in piecegoods. In 1913-14, the United Kingdom and Japan furnished respectively 97 per cent and 0.3 per cent of the imports of cloth. The table on the next page shows how the United Kingdom has lost and gained in imports between 1913-14 and 1940-41 :—

[1] Pearse, "The Cotton Industry of India," 1930, p. 1, quoted by Buchanan.

Year	United Kingdom	Japan
1913-14	97.1	0.3
1923-24	88.8	8.2
1929-30	65.0	29.3
1932-33	48.7	47.3
1936-37	43.7	54.4
1940-41	12.5	80.5

In 1923, when the cotton industry suffered from the after effects of the crisis of 1921, it had to face at the same time increasing competition from foreign producers. In 1926, a special Tariff Board enquired into the conditions of the cotton industry with special reference to Bombay and Ahmedabad. Stress was laid by the industry on the unfair competition of Japan which was helped by the employment of sweated labour and the double shift system. The mill industry in India had entered on a period of depression, after 1923, partly due to the loss of the export trade in yarn to China, partly due to the stabilisation of rupee at 1s. 6d., and partly due to Japanese competition. Apart from cheap labour and the double shift system, Japan's competitive strength lay, from the mill-owners' point of view, in (1) the superior organisation and finance of the Japanese mills, (2) superior marketing, (3) the opportunities for purchase of raw material, having alternative sources in India and the U.S.A. and (4) the temporary depreciation of the yen. The Tariff Board recommended protection, and under the Indian Tariff Act, 1927, a duty of 5 per cent *ad valorem* was levied on imported cotton yarn. With the increasing severity of competition from Japan, in 1929, the Government of India appointed a special officer, Mr. J. S. Hardy, to report on foreign competition and on the extent of protection necessary. Subsequent to the report in 1930 higher duties were levied on piecegoods. The issue of protection was further complicated by the Ottawa Trade Agreement of 1932, under which Britain agreed to encourage the purchase of Indian cotton in view of preferences granted to her in the finer qualities of piecegoods.

The increasing Japanese imports led the Government in 1933 to renounce the Indo-Japanese Trade Convention of 1904, which provided for mutual "most favoured nation" treatment, and raised the duty on non-British piecegoods to 75 per cent. Japan retaliated by a boycott of Indian raw cotton. Negotiations followed ; and an agreement in 1937 allotted to Japan an annual imports quota of 125 million yards unconditionally, 325 million yards if she purchased 1,000,000 bales of Indian cotton, and 400 million yards if she purchased 1½ million bales. The

duty on non-British goods was fixed at 50 per cent and the agreement was to remain in force till 1937. At the same time, a trade agreement was signed on behalf of the British and Indian governments in January, 1935, providing (1) for the retention of Imperial Preference and for the existing margin of preference, (2) for the removal of surcharges on cotton piecegoods when the surcharges of 1931 were removed from the generality of goods, and (3) for affording opportunities to any British industry to state its case before the Indian Tariff Board. In return, the British Government gave assurances that the use of Indian raw cotton in England would be encouraged.[1]

There has been recently a great increase in the export of piecegoods due to the war, which has stopped exports from Japan and England. Exports have increased from 177 million yards in 1938-39 to 390 million yards in 1940-41 and 819 million yards in 1942-43, but dropped to 461 million yards in 1943-44, it may be as a result of control. The greater portion of the increase has been due to the activities of the U.K.C.C. and to government purchases. At the same time there has been a relative scarcity within our country, with soaring prices and a flourishing black market in spite of textile control. The huge profits made by wholesale dealers and millowners led to the introduction of the standard cloth scheme evolved in 1941 by the representatives of the industry and Government in collaboration. It was brought into operation in 1943, but was far from successful, owing to lack of proper organisation and distributing machinery.[2]

The stimulus afforded to the industry since the outbreak of the war, 1939, may be regarded only as a fraction of what the Indian industry can look forward to in a growing economy. The present consumption of fifteen yards per head per annum is too little. There is an internal market of vast dimension, and even a small increase in the purchasing power of the masses in India may give rise to such a demand for clothing and for cotton piecegoods as to throw into the shade any incidental advantages which the war has brought to it. If the textile industry can absorb the greater part of the output of Indian cotton, it will have secured

[1] Although this agreement did not require ratification either by the British or the Indian Legislatures, a resolution for its rejection was carried by 70 votes to 65 in the Indian Legislature on the 30th March 1936.

[2] Mr. M. S. A. Hydari, Secretary to the Department of Industries and Civil Supplies, confessed in a speech to the Millowners' Association: "It is true that in September, 1941, a scheme was launched to make cheap cloth available to the people in certain defined varieties. It went by the name of standard cloth. It has failed so far to provide cloth either in substantial quantities or at a low price."

all the benefits of a self-sufficient economy. The industry need not think of entering into competition in foreign markets. The future of the industry in India is intimately linked up with its ability to serve the home market which is bound to expand with the general increase in the purchasing power of the masses.

The Future of the Cotton Industry

Owing to war orders since the outbreak of the present war, the immediate future looks very bright for the cotton industry. The Bombay, Ahmedabad, and Madras mills are all meeting orders from the Supply Department for such various materials as canvas cloth for tents, drills, shirtings, bandages, medicated cotton, and cotton ropes and yarns for camouflage nettings. But it would not be safe to think of the future of the industry in terms of the purely short-term advantages which the war has brought to it. The expansion of the cotton industry during the last decade or two has not been due to any increase in the purchasing power of the people inside the country but to some extent to an increasing demand from neighbouring countries. Thus, the exports of cotton piecegoods from India increased from 97 million yards in 1930-31 to 221 million yards in 1939-40. It is difficult to anticipate the place of India in the reconstructed economic order of the future. The insistent clamour for the restoration of the free trade principles and of equal access to all countries to raw materials where they are available would seem to perpetuate an economic order such as prevailed in the 19th century. Under such an order, countries like India were to be producers of raw materials for the benefit of the highly industrialised countries. The international economic order of the future with intensified competition on the part of Western industrialised countries would seem to offer no possibilities for the expansion of Indian goods in foreign markets. The war, on the other hand, with its curtailment of imports might give to the cotton industry in India an opportunity to plan its production in such a way as to make foreign imports of cotton goods superfluous in the future.

There is another problem that will face the cotton industry in the future. This is the relation of the machine industry to the hand-loom industry. Despite the passage of years and the existence of acute competition from the mechanised industry, the hand-loom weaver has managed to survive and to maintain himself with undiminished strength. The hand-loom industry is responsible to-day for 27 per cent of the total production ; it may almost be called a part and parcel of the agricultural organisation of India, as it provides an occupation for the cultivator in the season when agricultural work is slack. It is a fact that in spite of the

importance of this industry and its organic relation to agriculture, statistics about the number of people engaged in this occupation and the number of looms that are working as well as the production of cloth is so completely lacking.[1] The main objective of the mechanised cotton industry for the future should be the co-ordination of its own production with the production of the hand-loom industry so as to make India self-sufficient in the matter of cotton goods. The high standard of excellence reached by the hand-loom workers in the past gives us hope that a flourishing hand-loom industry can subsist side by side with its machine counterpart with the help of co-operative societies and direct Government assistance. Any attempt on the part of our Indian cotton factories to enlarge and expand production with the hope of capturing foreign markets at the end of the war might result in the usual phenomena of over-production and a slump which would be harmful to the industry. What is needed is careful co-ordination and planning between large-scale industrial enterprise and the handicraft, a planning which is far more important in a country like India than in any other country. Industrialisation does not necessarily mean large-scale factory production. In Soviet Russia, for example, the Five-Year Plan laid considerable stress on the development of hand industries and the promotion of co-operative societies and Government agencies which could supply the artisans with raw materials and tools and take charge of the distribution of the finished wares.

With the virtual loss of the overseas markets which we might not regain, or in which we may have to face severe foreign competition in the post-war period, the cotton textile industry which is greatly stimulated as the result of the war must be very careful with regard to the future. It has risen to its present position by the sacrifices of the masses. It must not, therefore, try to replace the hand-loom weaving industry's market in order to make up for the loss of the overseas market. It is not desirable that it should compete with the hand-loom weaving industry, which is an industry subsidiary to agriculture and of considerable national importance. Such a danger must be averted by a carefully planned organisation of the cotton industry.

Iron and Steel Industry

Iron and steel, the basis of the Industrial Revolution in the West,

[1] The recent release of the report of the Fact Finding Committee (Handlooms and Mills) appointed in 1941 gives us statistical data regarding this important industry. According to the Report the number of weavers for all India is 24 lakhs, with another 36 lakhs, some paid and some unpaid, of auxiliary workers assisting them, thus making a total of 60 lakhs, with 20 lakhs of looms. Assuming three dependants on every worker the committee estimates the total population dependent on hand-loom weaving at about 10,000,000.

were known to India from early days. Our country had developed high grade steel for the manufacture of weapons, tools, etc. The famous Damascus blades were forged from steel imported from Hyderabad in India. The equally famous iron column on the site of the Kutub Minar at Delhi weighing over six tons and forged about 415 A.D., is an eloquent testimony to the high stage of development of the iron industry in India. Even to-day one wonders as to how it was possible to forge such a pillar in those early days. The Agarias, the iron smelting caste, were to be found all over the country. Only a century and a quarter ago, Dr. Francis Buchanan had found many of these smelters in India. But, just as the machine-made, cheap, imported cotton goods had destroyed our cotton industry, the cheap iron goods imported from Europe destroyed the trade and industry of the Agarias and turned them into labourers who increased the pressure on land.

The earliest attempt to make iron by Western process was made about 1830 in Madras. In 1875 attempts were made to smelt iron by means of coal instead of charcoal, and a company was started for this purpose on the Raniganj coal field by the Bengal Iron Company. This company closed down after four years and the Government acquired the plant in 1881, working it till 1889, with two blast furnaces. The plant was then sold to a new Bengal Iron and Steel Company. The works were gradually enlarged, and the company now produces successfully pig iron, iron pipes, railway and other castings. About 1919 a new company was launched, the Indian Iron and Steel Company, with up-to-date American plant.

The Tata Iron and Steel Company was formed in 1907, and commenced operations five years later. It owns iron mines, limestones quarries, magnesite deposits and coal mines. After the crisis of 1921, the steel industry in India had to face the competition of foreign producers of steel, who were dumping their steel in every market. When the Indian Tariff Board was appointed, the iron and steel industry was the first to claim protection. The Board reported in favour of protection and an Act was passed levying specific duties on imported iron and steel materials, and granting bounties for the manufacture of rails, fish-plates, etc. The scheme of protection was subsequently revised, in view of the rise in the rupee exchange to 1s. 6d. and the unexpected fall in the continental steel prices. A bounty up to 50 lakhs of rupees on steel ingots was sanctioned and in 1926 higher specific duties were provided for. In 1933, there was a fresh investigation by the Tariff Board, which came to the conclusion that the protection afforded to the industry in 1926 had

proved successful, and that a stage had been reached when no further protective duties were required on imports. The Government of India accepted the recommendation of the Board, that if duties were necessary they were needed more as anti-dumping than as protective duties.

In 1936, the Indian Iron and Steel Companies were reconstructed and the Steel Corporation began working in November, 1939, with a plant capable of producing 250,000 tons per annum. From the outset of the war, an arrangement has been arrived at between the Tata Iron and Steel Company and the Government by which all the steel required by the Government for war purposes is given priority over all other requirements, and the prices have been fixed at the pre-war level. These prices, however, are subject to revision every six months in accordance with a reduction or increase in the cost of manufacture..

The growth of the iron and steel industry may be illustrated by the following tables :—

In thousands of Tons

	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40
Pig iron	1,109	1,343	1,541	1,552	1,644	1,576	1,838
Steel Manufactures:							
1. Iron castings	68	81	76	99	115	88	129
2. Steel ingots	721	834	880	861	922	977	1,070
3. Semis	99	76	71	78	759	791	872
4. Finished steel	452	551	606	613	668	726	804

Exports in thousands of tons

Year	Pig Iron	Iron & Steel	Year	Pig Iron	Iron & Steel
1927-28 .	393	59	1940-41 ..	599	104
1933-34	377	91	1941-42 .	521	40
1937-38 ..	629	87	1942-43	242	6
1939-40 ..	572	106	1943-44	184	2

The fall in exports after the outbreak of the war does not need any explanation. The development of a basic industry like the Iron and Steel has led to the rise of various subsidiary industries like engineering, wagon-building, tin-plate, wire and wire nails, agricultural implements, enamelled ware, etc.

The Iron and Steel industry being the 'key' industry has received an enormous stimulus since the outbreak of the war. The industry has been afforded a great opportunity for steel manufactures, the production of which was considered hitherto impracticable in India. Moreover, India's increasing consumption of iron and steel and the increased demand

after the end of the war for steel products necessitated by increasing industrialisation open up possibilities of an ever expanding market for the industry.

The Jute Industry

The Jute industry is the second important textile industry employing nearly as many workers as the cotton mills. All the jute factories are in Bengal. It was Dundee that took the lead in establishing the first jute factory in 1838. It was in 1855 that the first factory was erected in Calcutta for jute spinning and weaving. Bengal possesses a virtual monopoly in the production of raw jute, and over half of this raw jute is turned into cloth in Indian factories.

The following tables give us an idea of the development in production, mill consumption and exports of raw jute :—

	In lakhs of Bales		
Year	Production	Mill consumption	Export
1912-13	98	46	50
1922-23	54	47	29
1927-28	102	58	49
1932-33	58	44	35
1936-37	96	71	46

The number of looms increased from 192 in 1859 to 60,000 in 1933 and 66,000 in 1937. The total number of looms in all countries outside India is 49,000 out of which 8,000 are in Dundee.

Progress of Jute Industry

Year	No. of Mills	Looms in 000's	Spindles in 000's	Capital
1941-15 to 1918-19	73	39.7	821.2	Rs. 1,403.6 (authorised) in lakhs
1919-20	76	41.0	856.3	Rs. 1,563.5 „ „
1929-30	98	53.9	1,140.4	Rs. 1871.7 (paid up) „
1934-35	100	61.4	1,221.8	Rs. 1,967.7 „ „ +£ 2,525,000 +$12,000,000
1937-38	105	66.7	1,337.9	Rs. 2,029.1 (paid up) in lakhs +£ 2,525,000+$3,750,000
1938-39	107	67.9	1,350.5	Rs. 2,030.6 (paid up) in lakhs +£ 2,250,000+$3,750,000
1939-40	110	68.5	1,369.8	Rs. 2,056.4 (paid up) in lakhs +£ 2,250,000+$3,750,000

From the capitalist point of view, the jute industry may be said to be the best organised industry in India. The Indian Jute Mills' Association was organised in 1886, and has been instrumental in bringing about concerted action and co-operation between the jute companies.

These companies have frequently co-operated in the limitation of output through short time operation. The Government of India has appointed the Indian Central Jute Committee to watch over all the branches of the jute industry. Until a few years ago, the capital of these companies was in the hands of sterling holders in Great Britain. Even Americans have invested several million dollars in the enterprise. During the last decade or two, however, there has been a transfer of capital from British to Indian hands, but the management is still foreign.

Between 1915 and 1929, the jute mills paid handsome profits to the shareholders. With the coming of the economic depression in 1929, the industry has passed through a period of difficulties. The difficulties were aggravated by unhealthy competition of mills which were not members of the Indian Jute Mills' Association. The Bengal Government was compelled to intervene when what appeared to be a crisis was reached in the industry, due partly to discontented labour force, partly to declining prices for manufactured goods, and partly to the difficulties of the cultivators of jute. An ordinance was promulgated in 1938 prohibiting all jute mills in Bengal from working more than 45 hours per week. This was followed by a new working time agreement between the mills, limiting production. The outbreak of the war in 1939 changed the situation and brought about a big jump in production and profits.

It is difficult to judge the prospects of the industry in the immediate future. The outbreak of the war has involved the loss of European markets, and though the industry derived substantial benefits during the first year of the war, it has to face the problem of disposing of a huge surplus crop of jute. Unrestricted production may again bring the same difficulties which faced the industry some years ago. Here, as in other industries, what is needed is careful planning of production and co-ordination of the agricultural interest with the requirements of the industry. The Indian Jute mills consume, as we have already stated, nearly half the jute grown in India.

According to the calculations of the Jute Mills' Association, even on the basis of 54 working hours per week, 25 per cent of machinery is redundant. Mere restrictions on output, voluntary or compulsory, cannot solve the difficulties of this industry. The present stimulus of the war is artificial and, therefore, the future of the industry lies in a properly planned policy of rationalisation and carrying out of new lines of production. Brazil has been successful in her experiments to grow Indian jute and is expected to grow a crop of 50,000 tons in a few years' time; also the drive towards substitutes and "ersatz" products and

especially the recent experiments of cotton substitutes for jute—partially successful in America—and of marine fibre in Australia are a great danger to our industry in future.

The Sugar Industry

Among the protected industries of India, sugar occupies a unique position. Within a few years of the grant of protection, the sugar cane industry has made enormous strides, outstripping even the annual consumption of the country. Modern large-scale crushing plants are established all over the country, with a potential capacity for a production far in excess of the internal demand. Due to the outbreak of the War, the Central Government announced in September, 1940, that no tariff board would be appointed as was announced by them in March, 1939. In 1941, an Act was passed continuing the existing duties for one year more, upto March, 1943.

The progress of the industry is indicated by the following table :—

Year	No. of cane factories	Production of sugar direct from cane	Production of sugar refined from gur (in tons)	Production of Khandsari sugar	Total
1929-30	27	89,800	23,200	200,000	313,000
1934-35	130	578,100	39,100	150,000	767,200
1939-40[1]	145	1,241,700	31,700	125,000	1,398,400
1942-43	150	1,070,700	10,000	214,000	1,294,700
1943-44	150	1,260,000	10,000	100,000	1,370,000
1944-45	151	1,100,000	10,000	100,000	1,210,000

Sugar production in India is classified under three heads ; (1) by modern factories working with cane ; (2) by modern refineries working with raw sugar (gur) ; and (3) by indigenous open pan concerns. Along with a rapid increase in internal production there has been a sharp decline in imports. From an average of 1,000,000 tons in the years uptil 1930-31, imports dropped to 250,000 tons in 1933-34 and to 198,000 in 1935-36. In 1936-37 the net import was only 11,960 tons. The imports rose to 254,000 tons in 1938-39 in view of the deficit in home production. The imposition of an excise duty at the rate of Rs. 1-5 per cwt. on factory sugar, and ten annas on Khandsari sugar from the 1st April, 1934, yielded a revenue to Government of Rs. 97 lakhs in 1934-35 and Rs. 2½ crores in 1936-37. With the increase in excise duty, Government realised Rs. 4.22 crores in 1938-39. The table on the next page shows

[1] Burma factories are excluded from 1939-40 onwards. Figures are based on Table No. 1 of the Indian Sugar Industry annual, 1943, edited by M. P. Gandhi, May, 1944.

the total production, estimated consumption and imports of sugar during recent years :—[1]

Year	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1041-42
			(In Tons)				
Total Production	1,707,167	1,230,900	1,072,300	765,400	1,373,400	1,345,300	1,250,000[2]
Estimated Annual Consumption	1,074,000	1,167,000	1,159,000	1,065,000	1,050,000	1,150,000	—
Total import	80,962	11,060	9,410	254,400	36,000	30,000	—

The following table shows growth in the production of gur for direct consumption, since 1931-32 :—

Year	Tons in thousands	Year	Tons in thousands
1931-32	2,758	1939-40	2,441
1935-36	4,107	1940-41	3,410

Till 1931, India used to import ten lakhs of tons of sugar valued on an average at Rs. 15 crores per annum. From being a country which was mainly dependent on foreign sources for its requirements in sugar, India has to-day become the largest sugar producing country in the world. In the short period of a quinquennium, our production has risen to about 12 lakhs of tons per year.

A study of the Indian sugar industry reveals the fact that the production of gur is three to four times as large as the production of sugar in the country. About 60 per cent of the cane crop of the country is consumed for the manufacture of gur. With the increase in the spread of tea habit and the substitution of sugar for gur in the sweetmeat trade, and the demand for a clean product from sugar cane, we might expect a decrease in the demand for gur. But this has not been the case. The replacement of gur by sugar will depend on the level of the prices of sugar and gur. If sugar becomes cheaper it may be preferred to gur to some extent. But it has to be remembered that 70 per cent of our population live in villages and, therefore, even a slight difference of price in favour of gur will mean a perpetuation of the present demand for gur. Moreover, the fact that our per capita consumption of sugar is very low can be seen from the following figures :—

Per capital sugar consumption in lbs

U. K.	112	Australia	114	
U. S. A. ..	103	Japan	29	
Germany	59	India	20	(including gur)

[1] Indian Year Book, 1942-43, p. 712.
[2] Estimated.

According to Prof. Adarkar, the sugar industry has given new employment to at least 25 lakhs and an indirect employment to about 25 lakhs of people. "Thus the total employment caused by protection in a year of moderate results (1935-36) has been to the tune of about 50 lakhs of workers."[1] India is the largest producer of sugar in the world, the total yield of raw sugar being over five million tons, with a capital investment estimated at Rs. 33 crores. The total value of sugar and gur produced is about Rs. 100 crores per year and this is the second largest national industry, next to the cotton textile industry.

In order to avert internal unchecked competition due to the great fall in prices of sugar, the Indian Sugar Syndicate was formed in 1937 comprising over 90 mills. The Government was approached by the Syndicate for legislation to curtail production and overcome internal competition which had resulted in very low prices of sugar. The Government of U.P. and Bihar passed Sugar Factory Control Acts and made it compulsory for every mill to get a license for working sugar factories from the Government which was issued only to the members of the Syndicate. Thus, the Indian Sugar Syndicate was legally recognised and all the mills in the U.P. and Bihar have been compelled to sell sugar through the Syndicate. In 1940, the life of the Sugar Control Acts was extended to June, 30th, 1944, and a Sugar Commission was appointed by them to be "a final authority, subject to Government Control, on all matters connected with the production and sale of sugar." There was a large carry-over of sugar, approximately 400,000 tons at the beginning of 1940-41. The U.P. and Bihar Governments, restricted by means of quota, the production of sugar in factories in U.P. and Bihar. There was no check, however, to the production of sugar in provinces outside U.P. and Bihar and in Indian States. With an increase in the offtake of sugar, stocks at the end of November, 1941, were estimated at 265,000 tons.

An International Sugar Agreement between twenty-one major sugar producing countries was signed by the Government of India in May, 1937, which regulated export quotas and thereby India was banned from exporting sugar by sea to any country except to Burma for a period of five years. But India was declared a free market. This ban prevented India from exporting sugar when there was a growing international sugar shortage.

As Prof. Adarkar aptly observes in this connection, "When the major sugar producing countries of the world, comfortably sheltered behind

[1] B. P. Adarkar, "The Indian Fiscal Policy" 1941, pp. 201-202.

tariff walls in their own or in associated markets, are able to sell their sugar at differential prices in the free markets, the 'self-denying' ordinance imposed upon this country by the Government is an interesting commentary on their anxiety to help our struggling industries."[1] It is interesting to note that even within the British Empire, Indian sugar does not enjoy any quota or privilege granted to the other sugar producing countries of the Empire. The International Agreement, however, expired on 1st September, 1942 and it is gratifying to note that the Government of India have decided not to give the proposed extension to the International Sugar Agreement. (Vide Press Note of the Government of India in September, 1942.)

In order to help the cane cultivators, the Governments of U.P. and Bihar fixed the minimum prices of cane during 1939-40. An inter-provincial Sugar Control Board of U.P. and Bihar has been appointed. The recent development of sugar industry in other provinces threatens its position in U.P. and Bihar. The industry needs to be regulated and controlled by an all-India policy in order to arrest the great danger of over-production.

Another important problem connected with this industry is the proper and planned utilisation of its by-products, especially the production of power alcohol which would certainly lower the cost of production of sugar. Power alcohol is produced on an extensive commercial scale in the sugar producing countries. Alcohol as motor fuel has practically all the essential qualities of petrol. It has a number of advantages over petrol. Its thermal efficiency is greater ; it is safer in storage, in transportation and in use. It does not carbonise and is cleaner in every way. It also economises in the use of lubricants. Power alcohol is used as motor spirit after being mixed with petrol. The average annual production of molasses from 1936-37 to 1938 was 450,000 tons. The annual consumption of petrol in India in the same three years was 100,000,000 gallons on an average. With the development of motor transport in India greater imports of petrol will be necessary. Since the separation of Burma from India, it is desirable to develop an alternative source of motor fuel inside the country. Out of the 300 or 400 thousand tons of molasses, which are running to waste at present, it would be possible to produce 19 to 25 million gallons of power alcohol. According to estimates made by various authorities, the cost of producing power alcohol would be between 4½ to 6 annas per gallon. Adding an excise duty of 10 annas, it may still be possible to sell power alcohol

[1] Ibid., p. 253.

at Re. 1 per gallon. But so long as there are oil interests represented by companies like the Burma Oil Co. and the Anglo-Persian Co.. attempts at the development of power alcohol as a by-product of the sugar industry will always be frustrated. If the cost of production in the sugar industry is to be reduced in the future, utilisation of the molasses will have to be actively encouraged, as in other sugar producing countries such utilisation has led to incidental economies. The Power Alcohol Committee appointed by the U.P. and Bihar Governments had made its recommendations in 1938, but the opposition from the Central Government and the vested petrol interests did not allow much progress in actual production of power alcohol. The exigencies of the war, however, have led to the passing of Power Alcohol Acts in U.P., Bihar and Bombay. The Grady Commission discussed this question and orders for six or seven plants have been reported to be placed in August, 1942. At present, there are three major distilleries producing power alcohol in British India.

It would also appear that mill consumption of cane is the most economical method of utilising the cane and avoiding the wastage involved in gur manufacture. The scope for economy is relatively greater in provinces like Bombay, Madras and Bengal, where the total consumption is far greater than the production. There is obviously a need for a well-planned re-organisation of the industry in order to ensure a reconstruction of the industry after the war, which will enable the country to be supplied with sugar and gur in quantities considered necessary according to the international standards of nutrition. There is also needed not only regulation of the cane crop but of sugar production for the purpose of preventing over-production of sugar by legislation or by agreement among the factories.

The Imperial Sugar Cane Station at Coimbatore, the Sugar Cane Sub-Station, Karnal and the Agricultural Section, Imperial Agricultural Research Institute, Delhi, carry on sugar research work. The work of the Imperial Institute of Sugar Technology at Cawnpore started in October, 1936, is to be noted ; it advises sugar factories on improvements in working of plants, manufacturing processes, technical control of manufacturing operations, etc. besides giving training in sugar technology.

The war necessitated the institution of control by Government over prices and distribution in April 1942. The aim of the control has subsequently been widened to include maximisation of production also. A controller of sugar was appointed who was made a controller of gur in addition. Government have also recently appointed the Indian Control

Sugar Cane Committee to help the industry in its attempts to reduce the cost of production. The main function of the committee is to improve and develop the growing and marketing of sugar cane and the manufacture of products of sugar cane and other matters.

To-day India is the largest producer of sugar (including gur) in the world. The industry is the second largest industry, next to the cotton textile industry, employing over 120,000 workers, in addition to 3.000 graduates and technicians, and 20,000,000 cultivators, with a capital investment of about Rs. 33 crores.

The Cement Industry

It was not till 1912 that we had the real beginnings of the cement industry in India, though the beginning was made in 1904 in a small factory in Madras. Since then, the industry has made phenomenal progress as indicated by the following table :—

Year	1914	1916	1918	1925	1930	1935	1936-37	1937-38
Production in tons	945	18,600	84,300	360,000	563,000	890,000	997,000	1,169,000

After the collapse of the boom period in 1924, the infant industry was in a critical period due to internal and foreign competition, aggravated by production being in excess of demand. The question of protection was referred to the Tariff Board in April, 1924, which made certain 'conditional and halting' proposals. The Government, however, declined to accept even these moderate proposals. In order to save the industry, the Indian Cement Manufacturers' Association was formed to restrict supplies and regulate prices, which was a great success. The Cement Marketing Company was formed to regulate sales on a quota basis for the member companies.

The foreign imports of cement in India were 150,000 tons in 1914, which dwindled to 32,000 tons in 1937-38. The progress of the cement industry has been marked by the famous merger into one company, the Associated Cement Companies, Limited, (1936), of a number of concerns. In the boom of 1936-37, several new companies were floated, the biggest among them being the Dalmia Cement Co., Ltd., and this led to severe competition and over production. Recently, however, the A.C.C. and Dalmia Group came to a mutual arrangement which has prevented further competition. There is an immense possibility of the development of the industry in the future in view of the fact that there will be an increasing demand for cement in the country for road making, buildings, sanitary purposes, and in view of the exceedingly small per capita consumption of 8 lbs., provided the development is properly planned.

The Paper Industry

India possesses the necessary raw material and commands other favourable conditions for the development of a successful paper industry. Indian paper is made from wood pulp, rags and grass. The grass used is either bhabar or sabai grass. Sabai grass is perennial, and grows in dry climate from Chota Nagpur to Nepal. In recent years, bamboo has been increasingly used as a material for paper making, opening up immense possibilities for the Indian paper industry. There are extensive bamboo plantations in the Southern Presidency, in Kanara, in Bombay and in the forests in Assam and Orissa.

The hand made paper industry is an ancient industry in India. Paper production in earlier days had very little chance of standing the competition of foreign imports. The first machine made paper was manufactured in 1867, when the Bally Mill was started on the banks of the Hooghly. The Upper India Couper Mill (1879) at Lucknow ; the Titaghar Mills (1882) in Bengal, the Deccan Paper Mill (1887) at Poona and others soon followed. The war of 1914-18 gave a stimulus to paper manufacture. A new concern called the Naihati Mill was established by the Indian Paper Pulp Co., Ltd., on the banks of the Hooghly in 1918 for the production of pulp and paper from bamboo. Two more recent concerns are the Karnatak Paper Mills established in 1927 at Rajamundri for making paper from paddy, straw and bamboo, and the Punjab Paper Mills Co., 1929, for making paper from bhabhar grass. When the Tariff Board was appointed to consider the question of protection to the paper industry in 1931, there were nine mills in India.

The Bamboo Paper Industry (Protection) Act of 1925 gave protection to writing papers and certain classes of printing papers which was renewed and increased on the recommendation of the Tariff Board Enquiry of 1931. As a consequence, the paper and paper pulp industries have made good progress. The Indian Paper Mills are not able to produce newsprint which has to be imported from abroad to the tune of 45,000 tons per year.

The following table shows the growth of the paper industry :—

Year	Number of mills	Authorised capital in lakhs of Rs.	Tons produced	Value in lakhs of Rs.
1933	9	115	43,206	179
1936	10	135	48,209	192
1939	14	374	70,273	296

It has been estimated that the utilisation of bamboos for paper making will enable India to produce ten million tons of pulp per annum. The cost of production of paper made from bamboo is lower than the cost of paper made from imported wood pulp. Paper mills are springing up near centres of bamboo production, that is, at Chittagong, Dalmianagar, and Rajahmundri. Newsprint or paper for newspapers is made with a high percentage of wood pulp and it is difficult to make wood pulp in India. The paper mills round about Calcutta have to bring their sabai grass from a distance of 500 to 800 miles. But these mills enjoy the advantages of proximity to a market and the presence of coal fields close by. The prospects of utilising electrical energy have led to the starting of the Punjab Paper Mills at Saharanpur.

Even though our paper production has increased, we are still importing substantial quantities of packing and wrapping paper from abroad. The value of these amounted to Rs. 84 lakhs in 1937-38 and Rs. 67 lakhs in 1938-39. Similarly, paste board, mill board and card board imports were 31,700 tons valued at Rs. 55 lakhs in 1937-38, whilst in 1938-39 the imports amounted to 27,050 tons valued at Rs. 45 lakhs. The main item of imports has always been printing paper, which was 61,050 tons valued at Rs. 139 lakhs in 1937-38 but declined in 1938-39 to 46,100 tons. The imports of wood pulp used by Indian paper mills were 13,850 tons valued at Rs. 17 lakhs in 1938-39. An active forest research policy can easily make us independent of foreign wood pulp supply, in view of our large forests and suitable climate for the growth of the required type of coniferous trees.

The production of paper during the three years, 1936-39 averaged 54,000 tons per year, whereas the imports averaged 75,500 tons per year during the same period. The impetus given by the war has increased the annual production to over 100,000 tons per annum. The recent shortage of coal has affected production in 1944-45 which has been estimated at about 75,000 tons. Our per capita consumption of paper is very small in comparison with the advanced countries. But with increasing literacy and extension of primary and secondary education, there will be a greater demand for paper. Thus, there is quite a bright future for the paper industry which can cater for an increasing internal market of 389 millions. A properly planned paper industry can make India self-sufficient, regarding her paper requirements.

The Match Industry

After the establishment of British rule in India the convenience and cheapness of the match stick in lighting fires and in smoking has led

to its universal use, replacing the old methods. It has been calculated that about seven match boxes are consumed annually per head. India imported over two crores worth of matches from Japan and Sweden in 1921. All the conditions necessary for the establishment of a match industry are present in India. Taking advantage of the protection afforded to the industry, a gigantic Swedish combine which controls about 70 per cent of the world's demand has now established a number of factories in India and controls about 60 per cent of the total production of matches in India. The following figures show the growth of the industry :—

Year	Gross (millions)	Year	Gross (millions)
1935-36	21.15	1940-41 ..	23.13
1938-39	21.06	1941-42 ..	16.52
1939-40	21.97		

The indigenous match industry sought protection against the huge Swedish concern but the Tariff Board of 1926 did not distinguish between the Swedish Trust and the Indian producers with the result that the former being the biggest concern got the greatest benefit of the protection. The Board's proposals actually helped the foreign concern against which the Indian producers had sought help. To-day, the Swedish Trust has solidly established itself behind the tariff wall and has been able to dominate the match industry in India. The Western India Match Company is merely the Swedish company under a new name working as an Indian Public Limited Company, with a rupee capital. Though it has two Indian directors, the capital and control are entirely foreign. In ten years, about 25 to 30 Indian factories had to be closed down, 17 of them being in Bengal alone, because of the competition from the Swedish Trust. The following table speaks for itself :—[1]

Output in cases of 50 gross

Year	Swedish	Percent	Indian	Percent
1935	50,860	45	61,311	55
1936	39,113	50½	38,699	49½
1937	58,778	67	28,888	33

The Coal Industry

The Coal mining industry of India goes back to the time of Warren Hastings. The first licence to work coal mines was granted in 1774, but the venture failed. The company had found it "cheaper to carry coal by sailing ships from England around the Cape than to mine and use Indian coal."[2] In 1814, mining was started at Raniganj. The first

[1] Adarkar, op. cit. p. 293.
[2] Buchanan, op. cit., p. 255.

Geological Survey of coal fields was made in 1845-46. Detailed examination was carried out in 1858 and 1860. There are about 50 collieries now in existence. There has been rapid development since 1868. The coal mining industry in India is one of the basic industries. It employs about 200,000 persons with an output of 28 million tons valued at Rs. 10.64 crores in 1938. India is the ninth among the coal producing countries of the world but her quota is only two per cent of the world total. Impetus to the industry was given by the railways which consume one-third of the total output. The Iron and Steel Industry consumes about 2½ million tons per year. Domestic consumption is estimated at about two million tons which is very low in comparison with the large population. Attempts are made to popularise the use of soft coke as domestic fuel. The following figures show the growth of the industry :—

Year	Tons in thousands	Year	Tons in thousands
1868 ..	500	1910 ..	12,047
1880 ..	1,019	1920 .	17,962
1890 ..	2,168	1930 .	23,803
1900 .	6,119	1940 ..	25,056

The industry by 1925 was in a critical stage, due to the railways—the principal consumers of coal—owning and working their own collieries, due also to the precarious character of the export trade and the electrification of the suburban railways in Bombay, as well as the increasing use of electricity and oil as power sources by cotton mills in Bombay. The exports of coal had declined from 1,225,000 tons in 1920 to 216,000 tons in 1925. In 1922 only 77,000 tons were exported. The case for protection to the coal industry was referred to the Tariff Board in 1926. which reported against a protective duty on imported coal. The Legislative Assembly and the Minority Report had recommended a countervailing duty on the bounty fed foreign coal which was a great handicap to the Indian industry. Government, however, rejected this proposal on the ground of possibility of retaliation. In recent years, there has been considerable expansion in our exports which rose to 727,000 tons in 1929 but fell to 195,000 tons in 1936. Since 1937, there has been a rapid increase in exports and there is a decline in our imports. This increase has, however, been arrested by the exigencies of the War. The following table shows the exports and imports of coal in British India :—

	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44
			(in 000 tons)			
Exports	1,341	2,009	1,941	1,550	326	157
Imports	44	18	5.1	12.4	5.4	1.4

Sixty-two balance sheets of coal companies published from January to November, 1940, show a total profit of Rs. 105 lakhs against Rs. 102 lakhs in 1939 and Rs. 81 lakhs in 1938, but the wages paid to miners are "ridiculously low." In 1929 and in 1933, colliery owners made attempts to fix minimum prices and regulate marketing conditions by a restriction scheme but without success. Recently, some attention has been paid to the questions of underground safety and conservation of coal resources. A committee with Mr. Burrows as chairman, reported on safety and conservation of coal. It recommended legal measures for conservation of coal and the levying of a cess for adopting sand-stowing. The Minority Report recommended the nationalisation of coal mines on the basis of compensation to the present owners. The recommendations of the committee have been embodied in the Coal Mines Rescue Rules. The Coal Mines Safety (Stowing) Act has come into force from May, 1939, and a Stowing Board was established in November, 1939, for the collection of cess on coal, for sand-stowing measures. In the beginning, the colliery owners opposed the committee's recommendations, but the recent increase in the export position has diminished their resistance. The complete removal of women from underground work came into force only from July, 1939.

In 1943, in spite of public protests, the Government of India have allowed women to work underground, the reason given being that there was a shortage of labour. The shortage of coal to meet war requirements, in addition to the normal civilian needs has led the Government to concentrate their attention on increased production and to the appointment of a Coal Commissioner for India. The Colliery Control Order was promulgated in May, 1944, for the purpose of launching a comprehensive coal control scheme, regarding output, price, transport and distribution. Government have also promulgated the Coal Mine Labour Welfare Fund Ordinance in January, 1944, with the object of constituting a fund for promoting the welfare of coal mining labour. To administer the fund a Coal Labour Advisory Committee including a lady mine worker has been appointed, and it has recommended to the Government a cess of 4 annas per ton.

There are organisations of coal producers, one largely of European concerns called the Indian Mining Association, and the other largely of Indians called the Indian Mining Federation. In 1920, 134 coal companies of the Association produced two-thirds of the total output, and even among these, 47 per cent of its members produced 87 per cent of its coal. In recent years, the share of the Indian owners has increased

especially after the depression. The coal mining industry is one of the basic industries and in view of its national importance it might well be nationalised. It must not be allowed to depend merely on the export trade ; for there is enough scope for the development of the internal market with the progress of industrialisation in the country and also with increasing per capita consumption for domestic use.

The Leather Industry

India, with one-third of the total cattle population of the world, has the largest number of cattle, 125 million cattle and buffaloes, 46 million sheep and 58 million goats. It is estimated that 20 million cattle and 5¼ million baffalo hides, 28 million goat and kid skins and 19 million sheep and lamb skins are produced annually. These figures fluctuate, as 70 to 80 per cent of hides are obtained from animals dying a natural death. Still, India is a major supplier of hides and skins, both raw and half-tanned, in the world.

During the last war the tanning industry received considerable stimulus, the main cause being army orders. The Munitions Board encouraged the production of various goods hitherto imported from abroad. About 75 per cent of the Indian raw hides and 45 per cent of the goat and sheep skins are locally tanned, the rest being exported. Germany was our principal customer before 1914. After the war, the United Kingdom became the chief buyer, though we exported nearly one-third of our hides and skins to Continental Europe. The exports of raw and undressed hides and skins were valued at Rs. 412 lakhs and half-tanned at Rs. 600 lakhs in 1939-40. Almost the whole of the half-tanned leather was exported to the United Kingdom, which imports more than 50 per cent of our hides and skins.

The indigenous tanning industry, mostly a cottage industry, is carried on by "chamars." The modern tanning industry has been developed in Cawnpore, Agra, Calcutta and Madras. In recent years, there has been a great progress in chrome tanning, especially in Cawnpore, Calcutta and Madras.

The Indian Tariff Act of 1894 was amended in 1919 and an export duty of 15 per cent on hides and skins was levied, with a rebate of ten per cent on exports to Empire countries, to prevent the slump in the tanning industry, due to the fall in military demand. The rebate was intended to divert the exports from Germany to Empire countries. The Fiscal Commission considered the duty objectionable and was of opinion that protection, if at all, should be given through an import duty. The

duty was reduced to five per cent, this being solely for revenue purposes and the rebate was abolished in 1923. The Hides Cess Enquiry Committee in 1930 recommended one per cent *ad valorem* cess on the export of raw hides and skins to be used for the improvement of the tanning industry. The five per cent duty on raw hides was abolished in 1934 and that on raw skins in 1935. In order to improve the trade, a reorganisation of hide grading has been proposed by the Agricultural Marketing Adviser to the Government of India.

The present war has greatly stimulated the industry and an order for army goods of Rs. 100 lakhs has been placed with the Indian Leather Industry by Government. This order is being executed at the rate of 125,000 pairs of boots a month. The industry has vast capacity for supplying increased demand. A recent development in this country is the growth of lamb and kid fur skins. About 5,000 pieces were exported in 1928, and by 1936 exports exceeded two million skins. With the large scope for the development of leather and tanning industries in India, we need not remain dependent on exports of hides and skins.

The Glass Industry

Glass vessels and ornaments were manufactured in India in ancient times. Pliny refers to 'Indian glass' of superior quality. The first Indian references to glass are in the Mahavansa, the chronicles of the Sinhalese Kings (306 B.C.) when glass mirrors were carried in processions. According to Sir Alfred Chatterton, glass was an established industry by the 16th century. In the 17th century. enamelled glass was manufactured in India and Belgaum, Mysore and U.P. had glass factories in 17th and 18th centuries.

The industry is mostly a cottage industry, distributed all over the country with chief centres in the Firozabad District of the U.P. and Belgaum District in the South, manufacturing cheap bangles from glass cakes or blocks, manufactured in larger factories. It supplies one-third of our demand but is exposed to severe competition from Japanese 'silk bangles.' The modern factory industry is yet in its infancy, the first being that started in Talegaon in Poona District, with the help of 'Paisa Fund' and run on non-commercial lines. The impetus of the Swadeshi movement led to the establishment of a number of glass factories on modern lines, but most of them failed, due to inadequate technical skill, ignorance about the qualities of raw materials and lack of proper choice regarding sites, etc. Yet, sixteen new factories were started between 1908-13, only half of which were working at the outbreak of the war in 1914. With the encouragement given by the Munitions Board, during the war period, new factories were started, the estimated capital invested

being about Rs. 15 lakhs. The duty on imported glass was increased from 15 to 30 per cent between 1918 to 1932 and this led to the establishment of 22 new factories. In October, 1931, the enquiry into the glass industry was referred to the Indian Tariff Board when there were 59 glass factories. Its report in 1932 recommended protection for ten years and an increase in the duty on foreign imports. But these recommendations were not accepted by the Government of India who thought that the absence of Indian supplies of raw materials like soda ash was a great disadvantage. The question of protection was deferred and a rebate of duty on imported soda ash was granted which gave some relief to the industry.

To-day, there are more than 100 factories working in India and the war has stimulated production in various lines like glass tubes, surgical and laboratory equipment. The industry to-day supplies many types of glass to the Defence Department of the Government. The Glass Technological Section of the Benares University established on the recommendation of the Tariff Board has helped the industry by its research work. Recently, "windolite"—a new substitute for glass for building purposes—has been developed by the glass industry in India with the help and technical guidance of Government.

The value of imported glassware of all kinds was Rs. 190 lakhs before 1914, about Rs. 253 lakhs in 1926-27 and Rs. 165 lakhs in 1931. This fell to Rs. 125 lakhs in 1938-39. The total value of glass manufactures was estimated at about Rs. 80 lakhs in 1914. The Tariff Board valued it at Rs. 140 lakhs in 1931-32. To-day, the industry supplies over 50 per cent of our annual requirements valued at Rs. 200 lakhs, as against about 25 per cent before 1914.

Another notable feature of the glass industry in recent times is the increasing exports of glass and glassware to foreign countries. In 1939-40, exports were valued at Rs. 1,69,000 as against Rs. 46,000 in 1931-32. The following figures show the increase in exports :—

Year	Exports of glass and glassware Rs.	Year	Export of glass and glassware Rs.
1933-34	45,892	1938-39	115,220
1936-37	49,216	1939-40	169,491
1937-38	129,590	1940-41	583,775

The recent developments in the chemical industry and possibilities of indigenous manufacture of soda ash would remove the objection of the Government to grant protection. Thus, the industry has a bright future.

The Chemical Industry

The manufacture of chemicals is always regarded as a 'key' industry not only from the point of view of defence, but also as an indispensable preliminary for the development of various other industries. It is of vital significance to the industrial economy of the country. Heavy chemicals are the basis without which the proper utilisation of our resources would not be possible. Industries like paper, soap, glass, textiles, leather, metallurgy, drugs, ceramics, etc. depend on sodium compounds for the supply of which we have hitherto had to depend upon imports from abroad.

The last war gave a stimulus to the manufacture of a number of chemicals as foreign supplies were cut off. India, however, is still mostly dependent upon foreign countries for these supplies. She possesses vast resources but these have not been developed due to severe foreign competition especially from British and German Chemical Combines. The value of imports of chemicals and chemical products was Rs. 195 lakhs in 1913-14, Rs. 1487 lakhs in 1927-28 and Rs. 1072 lakhs in 1939. The imports of soda compound was 2,086,000 cwts, as compared with 1,074,000 cwts. in 1923-24.

The question of protection to the industry was referred to the Tariff Board in 1928-29. The Board recommended protection in the form of specific duties, the claim being based upon the great national importance of the industry. Government passed the Heavy Chemical Industry (Protection) Act in October, 1931, after considerable delay, embodying some of the recommendations of the Tariff Board, giving protection for eighteen months only, except in the case of magnesium chloride where the protection was to last till March, 1939. When the Act expired in 1933, the protective duties automatically lapsed, and no further action was taken. Due to the system of "preference with protection", the Imperial Chemicals, Ltd., a foreign concern, has been able to secure effective protection against their competitors abroad, very much as the Swedish trust gained at the cost of the Indian concern in the match industry, and has got a firm footing in our country.

The present war opens up vast opportunities for the development of our chemical industry by the cessation of foreign competition. The development of a large number of industries is handicapped by the lack of a well-organised chemical industry. The heavy chemical industry is to-day in its infancy. Its development needs a properly planned policy. The pioneering undertakings in this industry have been hampered by "bad location, insufficient financial support, crude design of

plants, want of support from large consumers including Central and Provincial Governments, military authorities, States, municipalities, docks and ports authorties."[1]

The development of a few heavy chemicals undertaken in a haphazard manner will not help us much. It is desirable to aim at the development of an all-round chemical industry, even if we have to import some of the raw materials from abroad, in as much as "there is no country in the world that can claim to supply all the raw materials required for heavy chemicals within its own limits."[2] With our vast and varied mineral resources and the possibilities of cheap power supply, especially electrical power, we can look forward to a bright future for this vital key industry.

CHAPTER XIX

INDUSTRIAL LABOUR

In the early days in India the cultivators in the villages often cultivated their lands with hired labour. Part of this labour was supplied by a class of people who were more or less attached to the landlord, and worked in exchange for free land for cultivation. Others were temporarily hired. On the other hand, there was no demand for industrial labour in the villages. Cottage industries and crafts were carried on by the hereditary artisans and craftsmen. With the decline of handicrafts, the craftsmen fell back on the land. It was not till the middle of the last century that labour in organised industry first came into vogue chiefly in connection with the Public Works Department, which undertook schemes for the construction of roads, railways and public buildings. A little later mines began to be developed and in the second half of the last century, the establishment of plantations and factories attracted industrial workers from different parts of the country. Following the census returns we reproduce a table showing the total number of people dependent on industries from 1901-1931 :—

	1901	1911	1921	1931
No. in millions ..	34.29	34.24	33.16	32.90

It is obvious from these figures that the population dependent upon industry diminished by .15 per cent in 1911 as compared with 1901 and by a further 3.2 per cent in 1921 as compared with 1911. In 1931, there

[1] "The Heavy Chemical Industry", by K. H. Vakil, in Indian Finance, Eastern Group Number, p. 47.
[2] Ibid.

was a further fall of 3.8 per cent. According to the census of 1921, the total number of workers in factories which employed 20 persons or more was 2.6 million. In 1931, no general return was obtained from industrial undertakings employing labour.

Plantation Labour

The number of workers on all kinds of plantations was 741,000 in 1911 and one million in 1921. In 1931, the census returns do not give us the total number of workers in plantations. The report on Industrial Labour in India, however, estimates the number in 1931 at 1,900,000 including planters, managers etc. The three principal plantation industries are tea, coffee and rubber estates. In 1935 there were 102,000 workers on coffee plantations, 37,000 on rubber plantations and roughly 900,000 on tea plantations.

Factories

The following table shows the growth of organised industries :—

Year	No. of Factories actually working	Average Daily Number of operatives	Year	No. of Factories actually working	Average Daily Number of operatives
1894	815	349,810	1937	10,466	1,751,137
1914	2,936	950,973	1940	10,900	1,844,428
1918	3,436	1,122,922	1941	11,868	2,156,377
1937	8,930*	1,675,869	1942	12,527	2,282,237
1938	9,743	1,737,755	1943		2,437,246

It may be pointed out that these figures are not strictly comparable, as the definition of factory was changed from time to time under different Factory Acts, and also because existing factories may have employed larger numbers. We also reproduce below an analysis of workers employed in perennial factories of different types :—[1]

	No. of Workers Employed (000's)			
	1939	1940	1941	1942
Textiles ..	817	829	953	965
Engineering .	148	159	204	224
Minerals and Metals	55	62	76	82
Food, drink & Tobacco	97	104	120	121
Chemicals, Dyes, etc.	56	57	71	73
Paper and Printing	44	46	48	49
Wood, Stone and Glass	52	59	78	82
Hides and Skins	13	18	24	30

* The figures from 1937 are exclusive of Burma.
[1] *Indian Labour Gazette*, February, 1944.

Mines

The following tables give us the number of mine workers in selected years :—[1]

Year	Mines subject to Mining Act	Workers under ground	Open workings	Surface	Total
1901	542	70,129	—	34,531	104,660
1924	1,804	167,719	—	90,498	258,217
1926	1,897	118,232	71,139	70,742	260,113
1933	1,424	112,355	41,587	52,565	206,507
1936	1,973	130,724	69,193	69,676	269,593
1939	1,864	223,486*	—	81,858	305,344

It would appear that the relatively larger fall in the number of mines as compared with that of workers in 1933 was due to the closing down of the smaller and more unprofitable mines. The following table shows the age and sex distribution of workers in mines :—[2]

Year	MEN		WOMEN		CHILDREN	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
1901	69,025	65.9	30,488	29.2	5,147	4.9
1924	164,402	63.7	87,434	33.8	6,381	2.5
1926	181,616	69.8	78,497	30.2	—	—
1933	171,038	82.8	35,469	17.2	—	—
1936	226,958	84.2	42,635	15.8	—	—

The decline in the number of women working underground as well as on surface was the result of legislation regulating mining labour in India. Indian legislation now prohibits the employment of entirely in the mines.

Communications

According to the census of 1931, transport industries telegraph and telephone services, and the number of persons India occupied in such services was 1,724,000 men and 1

Railway Servants

In 1931, the number of persons gainfully employed British India was 464,000. The following table shows railway servants in 1935-36 :—[3]

[1] Geneva Report on "Industrial Labour in India," p 50. have been added from Indian Year Book.

* This figure includes the numbers under open workings

[2] Geneva Report, *ibid.* p 52.

[3] *Ibid*, p. 58.

Class	Europeans	Indians*	Total no.	Percent of total
Gazetted Officers	1,086	763	1,849	0.24
Subordinates drawing Rs. 250 or more per month	1,227	6,863	8,090	1.13
Subordinates drawing less than Rs. 250	906	701,519	702,425	98.63
Total	3,219	709,145	712,364	100.0

The postal and telegraph services employed in 1931, 134,000 men and the Irrigation Department employed 89,800 directly and 172,700 indirectly.

Labour Supply—Agricultural Bias

Looking to the large population dependent on the soil, landless labourers who scarcely find employment for six months in the year, it might have been inferred that India would have an abundant supply of industrial labour whenever it was in demand. But for a long time, and even as late as 1919, industry was faced with a shortage of labour which sometimes became acute, as during the plague of 1896, and the influenza epidemic of 1918. To-day, there is no likelihood of any shortage of industrial labour. The rapid growth of population, the development of communications and the improvement in the conditions of work are factors which will ensure steady additions to the labour force in response to the growing needs of the industry.

The difficulties for recruiting labour in the early days were keenly felt in industries like the Assam Tea Gardens and the coal mines of Bengal and Bihar. A Labour Enquiry Commission appointed by the Government of India in 1896 was followed by a further enquiry in 1905. The latter reported that "proper steps had not been taken to obtain the ample supply that would otherwise have been readily obtainable."[1] It was pointed out that the places where labour was engaged were not known to the workers and that there was lack of concerted action on the part of employers.

The method of obtaining labour for plantations is characterised by the employment of intermediaries. Recruiting is done through men who receive from the planters loans free of interest from which advances are made to recruits and expenses of travelling to the plantations are paid.

* Up to 1922-23 railway servants were classified as Europeans, Anglo-Indians and Indians. But since then Anglo-Indians and Indians have been grouped together as Indians.

[1] Report on Labour in Bengal, 1906, pp. 29 and 67.

These advances are subsequently recovered during the period of employment. The workers in the Assam tea gardens were first employed under long term penal sanction contracts. Subsequently this indenture system was abolished, and this was replaced by a system under which 'sardars', who had to be bonafide workers on the plantations recruited labour in their own villages. The Tea Districts Emigrant Labour Act of 1932 enabled workers who did not require any material help for their journey to proceed freely to Assam.

Factories all over the country derive their labour supply in various ways. Small centres generally recruit labourers from local sources except when special skill is required. Larger centres usually recruit labour from surrounding districts. The bulk of labourers for centres like Jamshedpur, Bombay and Calcutta is drawn from distant regions. The system of recruiting labour for factories also varies in different places. Local workers, mostly unskilled, present themselves at the factory gates and are appointed on the spot. The most common system of recruiting is through intermediaries both men and women called jobbers, mukadams, or maistries. On this question the Royal Commission on Labour observe: "When the shortage was acute the employer had to send into the highways and byways to obtain workers. Overseers, labour contractors and others stimulated thereto by promises of commissions journeyed to distant villages and brought back recruits to the mills, paying their fares and expenses to the city. Such methods are still employed for many industries, particularly plantation, mining etc.; but now the great majority of managers of perennial factories need go no further than their own gate to obtain the workers they require—unfortunately the removal of the market for labour from the village to the factory gate has not generally meant the assumption by the employer of direct responsibility for the engagement of his own workers. This duty is still left largely to intermediaries and especially to jobbers."[1]

As the Royal Commission on Labour pointed out, industrial labour has always been recruited from agricultural areas, sometimes from areas at long distances from factories. The emigrants from the rural areas to the factories continued to regard the place from which they have come as their home. The majority of the factory workers are at heart villagers. They have had village upbringing, they have village traditions, and they retain some contact with villages. Some workers may have a direct interest in agriculture; more have indirect interests as members of a joint family who have agricultural holdings. "A larger number

[1] Report of the Royal Commission on Labour in India, pp. 22-23.

still have a home and members of their own family in the village." The Labour Commission pointed out that in most cases the workers have been born in the villages, that many of them leave their wives in the country, that generally their childhood is spent in the villages. After industrial employment has commenced, the worker returns to the village as often as he can, sometimes because he may assist in agricultural operations in the busy seasons, sometimes because the strain of work in the city needs to be relieved by a holiday in the country.

Causes and Effects of Migration

The main cause which compels the villager to seek employment in the town is the difficulty of finding an adequate livelihood in the village. There is a substantial class of landless labourers whose numbers are increasing, who are compelled to seek work in towns. Moreover, there are always large areas where periodic failure of rains or floods make living precarious. The opening up of communications with towns facilitates migration. The village artisans and craftsmen find it increasingly difficult to stand the competition of factories and an easy way out of the difficulty is for these hand workers to seek employment in factories. Finally, the desire to escape from social disabilities and caste bondage which are more rigid in the villages than in the industrial centres creates a growing flow of labour to the cities. The social amenities of city life and the lure of freedom from caste bondage which cities offer attract men from the villages to the towns not only in the West but in the East as well.

The Labour Commission observe that industrial workers in India are not "pulled" so much as they are "pushed" to the city. If they could secure sufficient food and clothing in the village, few of them would stick to industry. Moreover, Indian life is community life, and the individualistic existence inseparable from city conditions is strange and unattractive to the villager. When we turn from the causes to the effects of migration, these effects can be traced in many aspects of industrial life. The health of the worker is subjected to severe strain. With a change in climate the worker has to face a change in diet. Valuable elements of his diet have to be reduced in the town. Sickness and disease are additional dangers. City life brings new temptations to men who are married but most of whom live by themselves in the town. Alcohol and gambling are additional temptations. The worker used to spasmodic work with long intervals of leisure cannot readily reconcile himself to the continuous work and rigid discipline of a factory. This leads to absenteeism and frequently changes from one job to another.

The constant change in labour force, or labour turnover, carries with it serious disadvantages to the employer. A loss of efficiency results from the continuous inflow of labour new to the factory and its machines. It also involves an obstacle in the way of establishing contact between employer and employed.

On the other hand, the system of migration ensures to the worker a better standard of health and the combination of urban and rural life brings a width of outlook which is apt to be lacking in a purely urban population. The village provides a home and a refuge in times of sickness, strikes, and unemployment as well as old age. Further, the industrial worker who assists the village by diminishing the pressure on the soil brings to it on his return a new education ; he brings to the village his knowledge of the wider world, and a new conception of liberty and independence. The Royal Commission on Labour observe : " Our considered opinion is that, in present circumstances, the link with the village is a distinct asset, and that the general aim should be, not to undermine it, but to encourage it and as far as possible to regularise it."[1] This could be done by providing a certain number of holidays with pay every year, a sort of privilege leave such as is common in the professions.

Efficiency of Indian Labour

The opinion is generally expressed that Indian industrial labour is less efficient than the labour of other countries. Thus Sir H. P. Mody stated in his evidence before the Labour Commission, " In Japan a weaver minds four looms, and efficiency there is 95 per cent. In China a weaver minds four looms, and efficiency there is 80 per cent. In Bombay a weaver minds two looms and efficiency is 80 per cent. Calculated on the basis of Japan and China a weaver in Bombay is paid 200 and 300 per cent. more than a weaver in China and Japan." Dr. Gilbert Slater observes that the difference of output is due rather to the cheapness of the Indian worker as compared with the British worker than to any inefficiency in the Indian worker. " In Lancashire it is worth while to put only one worker to four looms because you save three workers' wages. But in India the wages are so small that it is not worth while to save that amount at the expense of running the looms at a lower speed, and so the real difference between the efficiency of a Lancashire and a Madras operative is very much overstated." On the other hand, we have Sir Thomas Holland bearing testimony to the superior efficiency of the Indian worker. " With Indian labour you can tackle any industry for which the country is suitable. I have seen labourers at Jamshedpur, who only a few years

[1] Report, p. 20.

ago were in the jungles of the Santals without any education. They are now handling red hot steel bars, turning out rails, wheels and angles of iron as efficiently as you can get it done by an English labourer."[1]

It has to be remembered, however, that efficiency depends upon a complex of factors and the totality of environment. The environment of the worker and life in general differ from country to country resulting in differences of efficiency. Quantitative measurements, or comparisons of efficiency, are apt to be misleading, but there is little doubt that the efficiency of industrial labour in India is low, as evidenced by its low earnings.

We need not add that the efficiency of labour, in all these pronouncements we have referred to, is judged by the criterion of maximum production, and on the assumption that the labourer is worth only what the employer can get out of him. If the efficiency of labour is to be determined, on the other hand, not by the external measure of output or by the measure of somebody else's profit, but by what labour under proper conditions may do towards the creation of a material and social environment favourable to the realisation of a good life for the members of society, our outlook on the comparative efficiency of Indian labour will radically change. For, as even the orthodox economists have now come to realise, labour is not only an instrument of production ; it has its own human and social worth, so that no economic progress is worth the name which does not raise its standard of comfort.

Efficiency and Environment: Working Conditions in Factories

It is a truism that the efficiency of the worker depends among other things on the health and safety of the workers. Health conditions include the sanitary conditions, in which the workers carry on their work and the conditions in which they live. The Factory Act of 1934 provides that the factories shall be kept clean and free from effusion arising from any drain, privy or other nuisance and also from impurities of gas, vapour, dust, excessive humidity and over-crowding. It is also provided that the factory should have a suitable and sufficient supply of drinking water, sufficient light and ventilation and a sanitary and adequate latrine system. The importance of controlling temperature in factories has long been

[1] The Grady Mission found that "Indian workers earning 65 cents a day in poorly lighted factories were turning out excellent machine tools . . . that in the Firestone plant in Bombay Indian workers were turning out as much per man as in the Firestone plant in Detroit, and that productivity per man in the Tata Steel Works at Jamshedpur was as high as the productivity of American workers in similar mills in Pittsburg. (Michael Straight, "Make This the Last War," 1943, p. 132).

realised. In 1925, the Government of India proposed legislation requiring the adoption of measures for reducing the temperature. But the legislation was postponed on account of the opposition of employers. Since then, some factories have installed cooling plants for humidification and also for the health and comfort of the workers. The Act of 1934 granted power to the Local Governments to make rules prescribing standards for cooling. With regard to the control of dust in seasonal factories like cotton ginning factories, the Local Governments have refrained from enforcing the necessary rules for fear that the industries might be attracted to neighbouring Indian States. Regarding dust in tea factories and rice mills, the Labour Commission recommended compulsory instalment of dust attracting machinery and also that new factories should not be allowed to be built without it. Some provinces have already made the necessary rules whilst others have postponed action.

The International Labour Office Report on Industrial Labour in India observes that sanitary conditions are particularly unsatisfactory in non-regulated factories. "There is for instance a marked absence of adequate sanitary arrangements. In such industries as the manufacture of shellac, which is carried on in unsatisfactory buildings with leaking roofs, earth floors and poor lighting and ventilation, there is an almost universal absence of washing and sanitary arrangements. There is a similar lack of sanitary arrangements and drainage in tanneries, where there are pools of filthy water and the earthen floors are littered with evil smelling refuse."[1]

Safety and Accidents

The Factory Act of 1934 provides that every exposed part of a prime mover, every hoist or lift and every part of the machinery which the Local Government may prescribe must be adequately fenced. The Act also requires provision of means of escape in case of fire, and for the protection from danger of persons employed in attending to the machinery in any factory. In these matters inspectors can serve orders on the management specifying the measures to be taken to remedy defects.

The need for improvements in safety arrangements is most urgent in the case of seasonal factories. Many of the buildings are structurally defective. Moreover, in cotton ginning factories there is always danger to workers on account of the number of belts and pulleys connecting the main line shaft, and the confined space in which the operator has to work.

[1] P. 189.

Further the Act of 1934 gives power to make rules prohibiting or restricting the employment of women and children upon any operation in a factory that involves risk of bodily injury, poisoning or disease.

Similarly, the Mines Act of 1923 empowers the Governor-General-in-Council to make regulations providing for the safety of mine workers, the means of entry to and exit from mines, the number of shafts, the fencing of shafts, pits and outlets, the setting and maintenance of pillars, the use of safety lamps etc. The Royal Commission on Labour found that the regulation of safety in mines was in advance of the regulation of conditions of labour, partly because the inspectors were occupied with safety measures under the Act of 1923.

Factory accidents in India include accidents of all kinds that occur to workers during hours of work, whether they are connected with the risk of employment or otherwise. The following table shows the growth of accidents in India :—[1]

	Factory Accidents			
	Fatal	Serious	Minor	Total
1892 ..	31	318	1,020	1,369
1912 ..	122	1,019	3,367	4,508
1941 ..	271	8,374	40,091	48,736
1942 ..	323	9,111	44,740	54,174
1943 ..	361	10,016	48,799	59,176

Statistics about the causes of accidents are not readily available, nor is there a uniform method of collecting them in all the provinces. The figures quoted reveal an increase of accident rate of nearly 450 per cent between 1892 and 1943, an increase probably unprecedented in the history of capitalism. The increase may be due to improvement in the methods of reporting accidents. The speeding up of the workers has not been associated with corresponding proper training in the handling of complex machinery. The employees may also have neglected their elementary duty of installing proper safety devices. But taking all things into account, as Dr. Kuczynski observes, "the fact remains that no country in the whole world shows such a rapid increase of the number of accidents as India."[2]

Hours of Work: Hours in Factories

One of the worst features of factory work in every country has been the long hours of work. India has been no exception. In the cotton and gin presses even as late as 1908, a factory inspector observed that the usual

[1] Geneva Report, p. 199 ; figures for 1939 are from Statistical Abstract for British India, 1931-40.

[2] "A Short History of Labour Conditions in Great Britain and the Empire", London, 1942, p. 130.

day in gins was 14 to 15 and sometimes 18 hours. Mr. R. F. Wadia, a manager of a gin press in the course of his evidence before the Bombay Factory Labour Commission of 1885 stated, " In ordinary seasons, that is, when work is not very pressing, the engine starts between 4 and 5 a.m. and stops at 7, 8 or 9 p.m. The hands work continuously all these hours and are relieved by one another for meals. In busy season the gins and presses sometimes work both night and day with half an hour's rest in the evening. The same set continues working day and night for about 8 days, and when it is impossible to go on longer, other sets of hands are procured from Bombay. . . . Both the men and women come to the factories at 3 a.m. as they have no idea of the time. I have 40 gins in one of my factories at Pachora, and I have only 40 women attending these 40 gins. I have only 8 spare women. I never allow these women off the gins. I am not alone in this respect ; it is the general system." So also another witness Mr. Drewett : " The ginning season lasts about 8 months, about 5 of which the hands work 5 a.m. to 10 p.m., and the remaining 3 months they work day and night. The hands are mostly women. The gins and presses never stop for meals ; as a rule the hands take their meals at the gins and he has often seen them taking their food and supplying the gins at the same time. He has often seen them supplying the gins thus mechanically three parts asleep, and a child at the breast sucking one minute and throwing cotton in the machine the next. They go on working day and night until they are completely worked out."[1]

The practice in earlier days was regulated by a contract system of employment. The factory owner paid to a labour contractor so much per bale of cotton ginner for furnishing all the labour, except his mechanical staff. The labour contractor had no concern for the work as a whole, and the factory owner none for the workers. " The factory owner seeks the lowest possible labour cost, and some coolie driver provides whatever workers can be mustered at the lowest possible wage and then drives them more cruelly than any tax farmer ever harried the poor."[2]

In the cotton and jute factories long hours were common. With the introduction of electric lighting winter hours were lengthened, a fifteen hour day was the usual practice. In 1908, the agents of two mills reported that for seven out of the preceding ten years they had worked 15 hours per day for an average of 305 days per year.

The demand for shorter hours of work came from the workers themselves. The Factories Act of 1911 for the first time limited the working

[1] Quoted by Buchanan, op. cit., pp. 304-305.
[2] *Ibid.*, p. 306.

hours of men to 12 a day. The Act of 1922 further limited the hours to 60 a week and 11 a day in all factores. The Act of 1934 maintained this regulation for seasonal factories, but reduced the hours to 54 a week and 10 a day in all perennial factories. After the passing of the Act of 1934, the number of hours in cotton mills in Bombay and other centres were reduced to 9 a day, and the mills generally work for 6 days in the week.

The hours of work in jute mills are now regulated by the Indian Jute Mills Association within the limits laid down by law. The practice is to limit the working to four or five days a week. When the jute mills were subjected to restrictions regarding hours of work, they used the same devices that British cotton manufacturers employed a hundred years ago—namely, the multiple shift system which makes the control of working hours of an individual impossible. Till 1931 the jute mills were divided into single shift and multiple shifts mills. All the mills opened at 5-30 a.m. and closed at 7 p.m. In the single shift mills work was stopped for 2½ hours at noon. The multiple shift mills worked 13½ hours continuously, on a system of overlapping multiple shift. The Labour Commission found various objections to the multiple shift system. Supervision was extremely difficult and a number of workers shown in the registers had no existence in fact. Non-existent workers were credited with pay which was divided between the clerk, jobbers and men who did extra work. The proportion of such "dummies" was estimated at 7½ to 10 per cent of the total. This practice not only lengthened daily hours beyond the legal limit in the case of adult workers but also in the case of children who were found to be working 12 hours a day in some mills. The Royal Commission, therefore, recommended that the Provincial Governments should have power to control the overlapping shift system.[1]

The following table shows for 1936 the numbers and percentages of perennial factories in which the men and women employed worked 42 hours or less, more than 42 but not more than 48 hours and more than 48 hours.[2]

Hours of Work in Perennial Factories in India, 1936

Classes of workers	Total number of factories	Factories in which normal weekly hours were					
		Not above 42		Above 42 & not above 48		Above 48	
		No.	Percentage	No.	Percentage	No.	Percentage
Men	551	309	5.6	1,243	22.5	3,969	71.9
Women	2,851	345	12.1	508	17.9	1,998	70.0

[1] Report, pp. 48-51.
[2] Geneva Report, p. 218.

We append a similar table for seasonal factories for 1936.[1]

Classes of workers	Total number of factories	Factories in which normal weekly hours were					
		Not above 48		Above 48 & not above 54		Above 54	
		No.	Percentage	No.	Percentage	No.	Percentage
Men	3,608	952	26.3	446	12.4	2,210	61.3
Women	2,955	1,032	34.9	303	10.2	1,620	54.9

Hours in Mines and Railways

There was no restriction on hours of labour in mines by legislation till 1923. In that year a New Mines Act was passed limiting the weekly hours to 60 above ground and 54 underground. There was no limitation of daily hours of work, and workers often remained underground for 16 and 17 hours at a stretch. An Act of 1928 provided that no mine shall remain open for more than 12 hours in any consecutive period of 24 hours unless work was organised in shift not exceeding 12 hours. Finally the Act of 1935, reduced weekly hours to 54 for work above ground and daily hours to 10 for work above ground and 9 below ground.

As in the case of men, so in the case of women working in mines, there were no legal restrictions till 1923 when the maximum hours for surface work was fixed at 60 and underground work at 54 hours. The Government issued regulations in March, 1929, to exclude by stages women from underground work and from October, 1937, the exclusion has become absolute.[2]

The railway workers fall into two groups: (a) Those employed in workshops who are covered by the Factories Act and (b) those who are employed under the Railways Act. In 1935-36, about 475,000 or 70 per cent came under the Railways Act. The normal hours of work were 48 in a week of 5½ days in 1930. In the larger locomotive sheds a three shift system of 8 hours each was worked. Mechanical staff worked 8 hours a day. In the engineering department, the hours were 8 to 9, a day and from 48 to 58 a week. At the large stations a three shift system was adopted. At smaller stations where the work was intermittent hours were generally 9 to 12. With regard to running staff, a large number worked within the 60 hour limit but in some cases drivers, firemen and guards worked upto 80 hours a week or longer.[3]

The Railways Act of 1930 provides that railway servants may not be employed for more than 60 hours a week on an average in any month

[1] *Ibid.*, p. 220.

[2] Recently, however, the Government of India have suspended the rule prohibiting employment of women underground, the reason given being an inadequate supply of labour for coal mines.

[3] Report of the Royal Commission of Labour, pp. 156-57.

except in the case of intermittent workers who may not work more than 84 hours a week. The Act has not been fully applied in the case of intermittent workers. The Royal Commission on Labour recommended that the case of all the individual branches should be examined by the Railway Board with a view to determining to what extent the prevailing hours of work could be reduced.

Intervals and Days of Rest

The Factories Act of 1911 provided that if children worked for more than 5½ hours half an hour's rest was to be given after not more than 4 hours work. The Act of 1934 permits children to work for only 5 hours a day. For women, the Act of 1891 provided a rest period of one hour and a half for every 11 hours of work. This was found inconvenient as it was not long enough to allow women to go home and return and too long for the purposes of rest in the factory. By the Act of 1911 the rest period was reduced to half an hour, the same as for men.

With regard to adult men, the Act of 1891 provided for stoppage of work, for half an hour between 12 noon and 2 p.m. The Act of 1911 made this stoppage compulsory at the end of every 6 hours. The Act of 1922 raised the duration of the rest to one hour, which might be divided into two periods of half an hour each. The Act of 1926 made it possible at the request of workers to limit the period to one half hour for persons employed for not more than 8½ hours. Under the Act of 1934, no adult worker may work (a) more than 6 hours without having one hour's interval of rest or (b) more than 5 hours without half an hour's interval of rest or (c) more than 8½ hours without having an interval of rest of two half hours.

All workers whose conditions of work are regulated by laws enjoy a weekly day of rest. The Act of 1881 provided for weekly holidays for children. The Act of 1891 provided that no woman should work more than 6 days continuously without a day of rest. The Act of 1911 granted weekly holiday for all workers and the Act of 1922 added the proviso that no person should be employed for more than 10 consecutive days without a holiday for one whole day. The Act of 1934 made the same provisions with regard to weekly holidays. Generally the day of rest is Sunday ; but to enable religious festival days to be substituted for Sundays employers may substitute for a Sunday any other day.

In the early days of the factory system, it was believed that the longer the hours of work, the greater the output. The employers were, therefore, always anxious to prolong the working day. Later, it was real-

ised that on humanitarian as well as economic grounds a shorter working day would be justifiable. In most countries, an eight-hour day is considered the optimum limit. In a country like ours with its hot climate, there is, on broad humanitarian grounds, a case for even a shorter working day ; but, in any case, the present limit of nine hours is probably too high. There has hitherto been a grudging and usually a belated recognition on the part of Indian industrialists of the claims of the workers to shorter hours of work. One can only hope that in the India of the future an enlightened self-interest on the part of employers, helped by a government sympathetic to labour, may inaugurate a new era for Indian factory labour.

Social Insurance

In a country like India where industrialism is in its infancy, it is natural that no attempt should have been made hitherto to introduce any modern system of social insurance against such risks as unemployment, sickness, old age, widowhood, and orphanage. In early days the joint family organisation afforded to the individual a social insurance scheme, giving him security against all such risks. The transfer of economic responsibility from the joint family to the individual has brought insecurity with it, most of all to the workers who have scarcely any property of their own. The Labour Commission did not consider unemployment insurance, feasible, under present conditions, in India. With regard to sickness insurance, the Commission observed that methods should be explored that may lead to alleviating hardships and recommended for examination, " a tentative scheme based on separate medical provision, possibly by Government, and financial benefits in the form of paid sick leave given through employers on the basis of contributions by themselves and by the workers."[1]

At present, therefore, social insurance in India covers only workmen's compensation, provident fund, maternity benefit schemes, and some private sickness assistance schemes. Recently, however, the Government of India appointed Professor B. P. Adarkar to prepare a scheme of Sickness Insurance in certain industries.[2] The report is now published. It has

[1] Report, pp. 265-69.

[2] In pursuance of a resolution adopted at a plenary session of the Labour Conference held at New Delhi, in September, 1943, the Government of India appointed a Labour Investigation Committee, consisting of Mr. D. V. Rege, as Chairman, and Mr. S. R. Deshpande, Dr. A. Mukhtar and Prof. B. P. Adarkar as members, to collect data, relating *inter alia* to wages and earnings, employment, housing and social conditions of labour, and in particular of industrial labour in India. The Committee was also to collect information bearing upon various aspects of social security, to enable the planning committee to be set up subsequently to draw up a programme of social security for labour in India.

a plan for sickness insurance, on a contribution basis, affecting only about 1,200,000 workers employed in the three major groups of industries,—textiles, engineering, minerals and metals. But in these industries also the factories with less than 500 workers have been excluded, on the grounds of difficulties in administration. It may also be noted that the labour welfare schemes that are being proposed to-day are only in connection with the industrial proletariat who form a very minor section of all the working classes. The mass of the rural population is absolutely unprotected, and no steps have yet been taken to ameliorate their condition in any way.

We have no statistics to show the extent of unemployment in India. Moreover, in a country where there is chronic under-employment of millions who are dependent for seasonal employment on land, figures of unemployment would be misleading. The present war has thrown this problem into the background ; but it is necessary to enunciate some kind of policy in this respect. The problem of unemployment in India is fundamentally different from that of Western countries. In our country, the seasonal unemployment in agriculture and "disguised" unemployment are manifestations of a much more deeply rooted malady than the mere lack of adjustment between the supply of and demand for labour. It is doubtful, if under these circumstances, any measure short of a radical change in our economic organisation can help in the solution of this problem.

It may be added here that adequate social insurance has been regarded as the key stone of labour policy in advanced industrial countries of the West. Such insurance is defended, firstly, on the ground that an individual cannot be allowed to suffer for mishaps which may befall him for no fault of his own, but just because of the socio-economic environment in which he happens to work. Secondly, there is also the fact that labour in the West is much better organised, and social insurance schemes are a concession by employers and the State to the workers in the interest of industrial peace. In this country, the first argument cannot work, for we have not yet developed a high degree of civic consciousness. The second contingency does not arise, as labour is weak and unorganised. But, at a time when Sir William Beveridge's Scheme for universal social insurance covering all conceivable risks is being actively canvassed in England, can we not put in a plea for the consideration of a similar scheme for our country in the interests of labour, when economic reconstruction for India is so much talked about ? There are, undoubtedly, difficulties in the way. A poorly paid Indian worker can hardly

be expected to contribute to these insurance schemes, when his wage does not suffice even for a decent living. Perhaps these difficulties may even necessitate planning on a more radical scale for our country. They can never justify an attitude of inaction or apathy.

Workmen's Compensation

The question of workmen's compensation was raised as early as 1884, but it was only after forty years that, due to the increasing rate of accidents and the pressure put upon Government, the workmen's compensation Act was passed in 1923. It was amended several times in later years. Under the Act the workman is entitled to compensation for any injury arising out of or in the course of his employment and for certain industrial diseases. The enforcement of the Act is entrusted to the Provincial Governments. The Act is administered by full-time special Commissioners in important centres. The scale of payment is determined by the rates of wages ranging from Rs. 10 per month or less to a maximum of Rs. 200 or more. In case of temporary disablement, compensation is paid at one half of the monthly wages to a maximum of Rs. 30 p.m. The maximum period for compensation for temporary disablement is five years. In case of permanent disablement, compensation is payable in a lump sum varying from Rs. 700 to Rs. 5,600 according to wage rates. In case of death, compensation is payable in a lump sum upto a maximum of Rs. 4,000 according to the variation of the wage rates.

In spite of improvements in the Act, it is ineffective so far as industrial diseases are concerned. It is in practice only applied to accidents. But there has been a lack of adequate knowledge on the part of workmen regarding their legal rights in claiming compensation. On this question, the Labour Commission observe : "There are still cases where compensation for fatal accident should be and is not claimed ; and it is our opinion that, unless steps are taken to give some assistance to dependants in the matter, it will be long before they are able to take full advantage of the Act. In many cases, they live hundreds of miles from the industrial areas, and they communicate only at long intervals with the workmen whose dependants they are. On occasions they must be ignorant of his whereabouts and they may not hear of his death until some time has elapsed."[1]

Provident Funds

Provident funds exist in India but they are found operating only in undertakings directly or indirectly managed by Governments or munici-

[1] Report, p. 311.

palities. The railways and some large-scale private undertakings like the Tata Iron and Steel Company extend the benefits of the scheme to all employees drawing a monthly salary of Rs. 15 or more. Every member pays 1/12th or 1/24th of his annual earnings and the company contributes an equal amount.

Maternity Benefits

The importance of maternity benefit legislation was first recognised in India after the adoption of a draft convention by the International Labour Conference in 1919. A private bill was rejected in 1924 by Government. The Labour Commission recommended that legislation should be undertaken throughout India, that it should apply to women in non-seasonal factories, that the entire cost of benefit should be borne by the employers, that maximum benefit period should be four weeks before and four weeks after the child birth, and that the administration should be entrusted as far as possible to women factory inspectors. The first Act in this behalf was passed in 1929 known as the Bombay Maternity Benefit Act. A similar Act was subsequently passed by the C.P. and Berar in 1931, by Madras in 1935, by U.P. in 1938, by the Punjab in 1943, and by Assam in February, 1944. The Central Legislative Assembly passed the Mines Maternity Benefit Act in 1941.

The amount of benefit in the Madras Presidency and in the cities of Bombay, Ahmedabad and Karachi is 8 annas per day, while in the rest of the Bombay Presidency and in the Central Provinces the benefit is at the average rate of the women's daily earnings, calculated on the wages of three months preceding the day on which she is entitled to receive the benefit, or at the rate of 8 annas a day whichever is less. In U.P. and Bengal the benefit is the same, but whichever is the greater amount is to be paid. In the Punjab the benefit is at the rate of 12 as a day, or at the rate of the woman's average daily earnings, whichever is greater. The benefit in Assam plantations is at the rate of Re. 1 per week, with a maximum payment of Rs. 14. In other employments in Assam it is at Rs. 2 per week, or average weekly wage, which is greater. The qualifying period of employment entitling a woman to maternity benefit varies from 6 to 9 months in different provinces, except Assam where it is the lowest—150 days. The maximum period of benefit is 8 weeks in all the Provinces, except in Madras and the Punjab, where it is 7 weeks and 60 days respectively.

Housing Conditions

The housing conditions of the majority of factory workers have been rightly characterised as deplorable. The Census Report of 1931 states

that the housing conditions in the city of Bombay, the most industrialised centre in India, are a disgrace to any civilized community. Most of the organised industries have grown up in or near large towns. "Limitations of space and high land values are responsible for much of the congestion in the large cities. . . . Probably the most important has been the lack of control over the selection of sites intended for industrial development and the consequent additional overcrowding, caused by the presence of large numbers of immigrant workers seeking accommodation in the heart of towns already suffering from a shortage of houses."[1]

The housing accommodation in organised industries may be supplied by employers or by public bodies, by trade unions or, what is the most common practice, by private landlords. Plantation workers and factory workers to a limited extent are housed by employers. A number of cotton mills in Bombay and Ahmedabad supply housing to their workers. So also do the jute mills in Calcutta. The Tata Iron and Steel Company have built over 6,000 houses for their employees. In Madras, 226 factories had provided housing accommodation for their workers by 1936. The railways provide quarters for a large number of railway servants. The provision of accommodation by public and semi-public bodies has been carried out on a large scale in Bombay city.

The houses thus provided are either built in rows, or they are clusters of small dwellings on plantations and near mines or chawls in cities consisting of two to three storey buildings. The railways till lately discriminated between Europeans and Anglo-Indians on the one hand and Indians on the other. More recently, there has been a change in policy, quarters being alloted according to grade and pay. The housing scheme of the Tata Iron and Steel Company provided for construction of houses in groups of six, the number of families being restricted to 12 per acre, and each group accommodating members of the same caste or people coming from the same part of the country. The total cost of the scheme upto March, 1937, was about 11,000,000[2] The housing scheme of the Ahmedabad Labour Union provides for 64 dwellings on the banks of the Sabarmati, each dwelling consisting of two rooms, a kitchen, a front verandah and a yard at the back. The dwellings may be acquired by the occupiers on hire purchase system.[3]

House Rent and Sanitation

Industries like the plantations and mines supply free accommodation to workers. The Tata Iron and Steel Company charges rent at four per

[1] Report of the Royal Commission of Labour in India, p. 170.
[2] Tata Iron and Steel Works—Report on Conditions affecting Labourers, 1937.
[3] *Labour Gazette*, February, 1933.

cent of the capital outlay. The railways grant free quarters or house rent allowances. The following table shows monthly rents paid by workers in Sholapur, Ahmedabad and Bombay :—[1]

Monthly rent	Sholapur (1925)		Ahmedabad (1926)		Bombay (1932)	
	No. of families	Percentage of total	No. of families	Percentage of total	No. of families	Percentage of total
Below Rs. 2	304	33.70	48	5.51	13	0.91
Rs. 2 — 3	280	31.04	76	8.72	26	1.82
3 — 4	218	24.17	160	18.35	96	6.70
4 — 5	76	8.43	223	25.57	207	14.45
5 — 6	10	1.11	191	21.90	434	30.31
6 — 7	11	1.22	82	9.40	117	8.17
7 — 8	2	0.22	29	3.33	271	18.92
8 — 9	1	0.11	28	3.21	131	9.15
9 and over	—	—	35	4.01	137	9.57
Total	902	100.00	872	100.00	1,432	100.00

The quarters provided by railways have adequate sanitary arrangements. But as regards the dwellings of workers in industrial towns, the houses are built without plan, close to one another with no provision for light and air. In Cawnpore, for example, 82.5 per cent of the dwellings enquired into have no windows.

As regards water, in Cawnpore out of 729 families, 31.3 per cent used municipal hydrants, 52.7 per cent the common wells, and 16 per cent used private taps provided by landlords. In Bombay, one tap was provided for less than 8 tenements in 56 per cent of the cases, for 9 to 15 tenements in 33 per cent of the cases, and for over 15 tenements in 11 per cent of the cases. The state of affairs was found to be much worse among workers lodging in old buildings. The Royal Commission observe : "Neglect of sanitation is often evidenced by heaps of rotting garbage and pools of sewage, whilst the absence of latrine enhances the general pollution of air and soil."[2]

Lack of sanitation is not the only hardship from which the labourers have to suffer in industrial centres. The effects on health arising from insanitary conditions are aggravated by overcrowding. In Bombay, the proportion of families living in single rooms was 97 per cent in 1921 and 89 per cent in 1930. According to the Rent Enquiry Committee Bombay, the total number of persons living in rooms, each occupied by 6 to 9 is 256,379 ; each occupied by 10 to 19 persons is 80,113, and each occupied by 20 persons and over is 15,490. Every third person in the

[1] Report, p. 271.
[2] Geneva Report, p. 304.

city lives in such frightfully overcrowded conditions. It was 73 per cent in Ahmedabad in 1926 and 72 per cent in Cawnpore, and 60 per cent in Nagpur and Jubbulpur in 1930. The average number of persons per tenement was 4.6 in Sholapur, 3.87 in Ahmedabad and 3.88 in Bombay.[1] The report on Industrial Labour points out that one of the causes of overcrowding is sub-letting. The workers resent paying rent in some cases as they have not been used to pay rent in their villages. They, therefore, raise the amount by sub-letting. In other cases the workers are not in a position to pay rent without taking lodgers. We are told that in Bombay about 20 per cent rented space in their lodgings to other persons varying in number from 1 to 12.[2]

An obvious result of overcrowding is the high rate of infant mortality. It is illustrated by the table which we owe to the Geneva report :—[3]

Infant mortality in relation to the number of rooms occupied in Bombay, 1926-27

Number of rooms	Births		Deaths		Infant mortality per 1000 births Registered	
	Number	Percentage	Number	Percentage	1926	1927
1 room and under	11,615	53.6	5,688	83.0	577	490
2 rooms	1,736	8.0	352	5.1	254	203
3 rooms	392	1.8	87	1.3	215	222
4 or more rooms	174	0.8	34	0.5	163	195
Hospitals	7,764	35.8	680	9.9	107	88
Homeless and not recorded	4	—	16	0.2	—	—
Total	**21,685**	**100.0**	**6,857**	**100.0**	**389**	**316**

Still more alarming is the situation evidenced by the following table :—[4]

Infantile Mortality in Bombay per 1000 births 1933-34 among working class

1 room and under	524.0	3 rooms	255.4
2 rooms	394.5	4 „ and over	246.5

The Labour Commission observe in connection with housing that the main responsibility for housing policy lies with Government and the local bodies, that even the most prosperous industries cannot house all their workers without active assistance from Government and municipal

[1] *Labour Gazette*, May, 1931.
[2] Geneva Report, p. 307.
[3] *Ibid.*, p. 308.
[4] S. V. Parulekar, Indian Worker's Delegate at the International Labour Conference, Geneva, July, 1938.

authorities. They recommend (1) that the Land Acquisition Act should be amended to enable industrial concerns to acquire land for the housing of workers ; (2) that Provincial Governments should make a survey of urban and industrial areas with a view to ascertain the needs for housing ; (3) that minimum standards with regard to cubic space, ventilation, lighting, water supply, drainage be laid down by Government ; (4) that statutory obligation be imposed on Improvement Trusts for provision of working class houses ; (5) that co-operative building societies should be encouraged ; (6) that laws relating to health and sanitation should be rigorously enforced by municipalities.[1]

When we look to housing conditions for the workers in big cities, we cannot help reflecting upon the slow rate of improvement in this connection. Taking Bombay city for the purpose of illustration, one is tempted to observe that very little progress has been achieved between 1917 and our own days. The Industrial Commission referred to the three and four storied chawls with single rooms, pitch dark, the water arrangements insufficient and latrine accommodation bad. Since then, the Improvement Trust has built Development Chawls to accommodate 50,000 workers. These were supposed to be model structures. They are barracks with one room tenements, the kitchen crowded into living rooms. The windows are in concrete so that they could not be opened to let in fresh air and light, and covered over in the rainy season so as to shut out altogether such fresh air as the opening might permit. There is not the slightest attempt at providing a garden or a terraced roof for recreation. They are veritable dens of pestilence and epidemics.

In Calcutta conditions are not any better. " Inside the area enclosed by Circular Road and the River Hooghly, Calcutta contains no less than 22 blocks of residential property without any street system, and served internally only by tortuous lanes, passages and fragmentary lengths of narrow streets." Describing the Basti or hut system in Machua Bazar and Bow Bazar, Dr. Mukerjee observes, " The typical unit of the quarter consists of a central court yard, some 15 feet by 10 feet, surrounded on all sides by thatched huts made of mud. Each room gives shelter to some 4 or 5 people, men, women and children, there being one bed for the whole family, one tap and one closet for the whole colony." " The average size of these dens is 9 feet by 6 feet by 5 feet in each of which a family of 4 to 5 people live, store things and cook their food. The tragedy of life occurs when a woman is confined or a man falls sick in one of the veritable hells."[2] No more telling testimony as to housing

[1] Report, pp 285 *et seq.*
[2] " Comparative Economics ", Vol. II, p. 286.

conditions in Calcutta can be offered than the admission of R. G. Casey, the Governor of Bengal, who on visiting the Busti area of Calcutta on the 1st December 1944 observed : " I have seen something of the way in which hundreds of thousands of the citizens of Calcutta are obliged to live. I have been horrified by what I have seen. Human beings cannot allow other human beings to continue to exist under these conditions."[1] And yet these conditions, were allowed to exist for a hundred years by a civilised government that claims to be the trustee of the welfare of the millions of India.

Conditions in Jute mill towns and Bengal coal fields are not any better. Although there is no dearth of open space and land is cheap, the sudden growth of mill towns has led to serious overcrowding and insanitary conditions in places like Titaghur, Kharagpur, Naihati and Serampur. " In spite of the abundance of land in jute towns, single room houses meant for four adults are sometimes occupied by 11 to 16 adults."[2] The employers of the jute mills generally provide lines or blocks of back to back rooms, 8 feet by 8 feet for the residence of some of their workers. A small door and a small window opening on the verandah constitute the ventilation of the rooms. On account of the scarcity of even such rooms, 8 to 12 and sometimes even 15 souls live in a single room.

Thus the workers in India are " housed like animals, without light and air and water." As Dr. Kuczynski observes : " On the whole, the working conditions in Indian factories, mines, railways and plantations are just as barbarous as the living conditions. They are far worse than in any European country, far worse than in any Dominion, with the exception of conditions among natives in South Africa ; they are worse probably than in any South and Central American State."[3]

Conclusion

Industrialism is advancing rapidly in the country. Its progress is apt to be measured in terms of wages and profits, but the vast human material which it so ruthlessly affects scarcely commands attention. Deep in the background of these slums, the flames are spreading. We need no labour leaders or Bolshevik teaching from outside to fan these flames into a rebellious conflagration. Will a National Government see more clearly, where interested capitalists eager for dividends, and our present government, have failed to observe the need for action so that by social control and

[1] "*Bombay Chronicle*", 2nd December 1944.
[2] D. F. Curjel, "Women's Labour in Bengal Industries", quoted by Gupta in "Labour and Housing in India", p. 81.
[3] Op. cit., p. 141.

legislative action the industries which are responsible for the collection of huge aggregates in narrow areas may realise their social responsibilities ? The need for providing decent homes to the workers and their families must be regarded as a first charge on the industry, which it has to bear even as a part of its costs. Otherwise, the conflagration may spread and where there are slowly rumbling forces underground there may be violent upheavals involving needless destruction.

If we probe deep into the social unrest and economic ailments of our industrial civilisation, which rests on a basis of capitalism, we shall find at the root of the malady the sense of insecurity, the uncertainty of finding employment from day to day which is the inevitable accompaniment of production for profit. The social insurance schemes of our times can be called the antitoxins which the body corporate produces to fight against a disease which its own economic organisation involves. Such schemes may be regarded as the methods by which a capitalist society tries to ensure its continuance and finds renewed strength against the growing menace of a socialist or communist order. As for India with its untold number of labourers on land, its artisans and hand-workers and its two million of factory workers, any comprehensive scheme of social insurance based on conventional Western lines would be beyond the dreams of the wildest imagination. But even assuming that such schemes were financially practicable, we have to keep in mind the obstacles that have to be overcome including the immensity of the population, its phenomenal poverty, the lack of reliable data, the primitive character of sanitary measures, and the absence of an effective public opinion, conscious of the claims to a full human life. Do not all these considerations inevitably suggest the need for a radical transformation of the economic order ?

CHAPTER XX

INDUSTRIAL WAGES AND STANDARD OF LIVING

The problem of wages in organised industries in India needs to be studied in view of the conditions in the villages from which the labour is drawn. Industrial wages and agricultural wages in India are closely related. More so, when we remember that even to-day there is a constant movement back and forth between farm and factory. Incomes in the villages are proverbially low. Although, therefore, industrial wages have been generally higher than earnings in agriculture or

of labour on farms, the level of such wages is largely influenced by the poverty of the villages.

It was not till 1875 that the first attempt at collecting wage statistics was made by Government. It would appear that both agricultural and industrial wages remained fairly steady between 1873 and 1891. Information collected by the Bombay Government in 1892 showed that mill wages had remained at about the same level since 1860.

The Labour Commission of 1908 observed that the wages of textile factory operatives were considerably higher than those earned by the same class of men in other employments. At the time of their enquiry, monthly wages in the cotton textile mills varied within the following limits :—[1]

Half times	Rs. 2½ to Rs. 4½	Boys between 14 and 17	Rs. 5 to Rs. 13
Hands in the card frame depts.	Rs. 7 to Rs. 18	Head spinners male	Rs. 25 to Rs. 35
Male piecers	Rs. 10 to Rs. 16	One loom weavers	Rs. 10 to Rs. 15
Women (reeling and winding)	Rs. 5 to Rs. 12	Two loom weavers	Rs. 18 to Rs. 35

The following table shows weekly wages in a Calcutta jute mill between 1896 and 1927 :—[2]

Average Wages (in rupees) in a Jute Mill in Bengal

1 January of	Carding	Rovers	Spinners	Shifters	Winders	Weavers
1896 ..	1.37	2.19	2.50	0.87	2.50	4.75
1900 ..	1.44	2.25	3.00	1.00	3.00	5.25
1904 ..	1.47	2.37	3.25	1.12	3.25	5.37
1908 ..	1.50	2.75	3.50	1.25	3.50	5.50
1912 ..	1.50	2.75	3.20	1.23	3.20	5.65
1916 ..	2.00	3.3	3.50	1.75	3.60	5.65
1920 .	2.75	5.4	4.33	2.00	5.88	8.75
1927 ..	2.87	4.37	4.50	2.19	5.10	7.50

Datta's enquiry into the Rise of Prices in India using the average of the years 1890-94 as 100 shows the following advance in the wages of cotton industry :—

1890-1894	1895	1900	1905	1910	1912
100	102	112	121	134	141

Though cotton mill wages advanced less rapidly than other wages and prices before 1914, they more than made up the difference during the war and the post-war periods. The wages in Bombay did not differ

[1] Pillai, op. cit. p. 242.
[2] Buchanan, op. cit. p. 326.

much from those in Ahmedabad, but they were higher than those in Sholapur, Baroda State and other centres. The attempt of Bombay employers to reduce wages by 11 per cent led to a disastrous strike in 1925. Later, Government was induced to remove the odious countervailing duty of 3½ per cent on cotton goods manufactured in Indian mills on conditions that wages be left untouched. The following table shows the wage rates in different centres in the Bombay Presidency :—[1]

Average Monthly Earnings per Head in Cotton Mills

Place	Class of Labour	May 1914	May 1921	August 1923
		Rs. As. Ps.	Rs. As. Ps.	Rs. As. Ps.
Bombay City	Men	18 6 8	34 15 2	35 10 7
	Women	10 0 10	17 6 6	17 5 6
Ahmedabad	Men	15 7 1	34 2 11	33 0 9
	Women	9 15 11	19 9 4	18 2 7
Sholapur	Men	14 3 11	25 13 0	22 3 10
	Women	5 13 11	10 15 9	8 9 7
Baroda State	Men	13 8 7	28 12 4	24 0 1
	Women	6 13 4	16 6 11	14 14 11
Bombay Presidency	Men	17 0 8	33 6 10	33 1 10
	Women	9 0 1	16 9 1	16 3 10

The following table of index numbers of wages in Bombay Cotton Mills shows the movements of wages with 1914 as the base year.[2]

Index Numbers of Wages in Cotton Mills

Year	Index Number	Year	Index Number	Year	Index Number
1870	76	1910	102	1919	146
1890-94 (average)	80	1912	99	1920	190
1895	82.4	1914	100	1922	190
1900	85.6	1917	110	1924	175
1905	86.4	1918	125	1930	175

It will thus appear that between 1860 and 1895, there was very little advance in the rate of wages. Between 1895 and 1914, wages rose with the rise in prices. From 1914 to 1930, there has been a rapid advance, the peak having been reached in 1920.

At the beginning of the year 1933, the wage position in Bombay was more or less the same as in the year 1926, when the workers were in receipt of wages which were made up of basic rates of pay, plus a dearness food allowance. If the average daily earnings of all adult workers in all cotton mills in Bombay City in October 1934, are compared with

[1] Buchanan, op. cit. p. 331.
[2] *Ibid.*, p. 332.

those in the 19 mills selected for the 1926 enquiry, it is found that the general reduction in wages as between July 1926 and October 1934, was one of 16 per cent. In Ahmedabad, mill wages were 5 and 6 per cent higher than in 1926, because of the increase granted in 1930. In Sholapur, according to the General Wage Census of 1934, the earnings of cotton mill workers in all occupations were less by 20.5 per cent as compared to July, 1926.

It may be noted that the average Index Number of Wholesale Prices of all commodities in Bombay and Calcutta were 98 and 87 in 1933 and 95 and 89 in 1934 respectively.

The following tables are of some interest in this connection :—[1]

Monthly earnings—All occupations July 1937

	Rs.	as	ps.
Bombay	28	4	10
Ahmedabad	30	11	10
Sholapur	18	6	8
Poona	20	11	6
Whole Province	27	5	8

Comparative Monthly Average Earnings—All Occupations

	1934			1937		
	Rs.	as.	ps.	Rs.	as.	ps.
Bombay	28	15	8	28	4	10
Ahmedabad	35	1	2	30	11	10
Sholapur	18	15	4	18	6	8
Whole Province	28	11	4	27	5	8

Wages in Mines and Railways

Mining wages like wages on tea estates have been low, differing slightly from the wages of unskilled workers. Daily wages in two mica mines in 1891 were reported as follows :—[2]

	The Sapohi Mine	The Singar Mine
Blasters (male)	3 to 5 annas	11 to 13 pice
Ordinary (male)	2 annas	8 pice
Women	6 pice	6 pice
Children	3 to 5 pice	4 to 5 pice

'Similarly, in a colliery the average wages per week for underground workers was Rs. 1-1 and for surface worker 14 annas 6 pies. Mining wages, however, improved between 1890 and 1912. The following table from Datta bears out the rise :—

[1] Calculated on the basis of 26 days per month from figures given in the Bombay Textile Labour Enquiry Committee Report, 1940, pp. 55-57.
[2] Buchanan, op. cit. p. 321.

Increase in Mining Wages in Index Numbers

1890-1894	1895	1900	1905	1910	1912
100	106	133	158	186	189

After 1916 there was a rise, the average wage being 12 annas per day in 1921. Miners' wages, however, are low compared to those of mill workers. In the Raniganj field in 1930, men's wages per month varied between Rs. 12 and Rs. 16 and women's between Rs. 8 and Rs. 12. The President of the National Association of Colliery Managers in a speech in February, 1937, referred to the " ridiculously low wages of the workers." The development of the iron and steel industry is comparatively recent and the following table shows comparative fluctuations in average yearly wages of the convenanted and unconvenanted hands. The convenanted hands are the European and American executives and technicians. The unconvenanted are Indians :—[1]

Yearly average wages in the Tata Iron and Steel Mill
(In Rupees)

	Covenanted hands	Uncovenanted hands			Uncovenanted hands	
	Open Hearth Plant	Open Hearth Plant	28" Mill	Blowing Mill	Cock Ovens	Blaste Furnance
1913-14	4,484	242	185	415	207	339
1916-17	11,212	250	383	518	200	207
1919-20	13,126	205	381	393	235	215
1921-22	13,527	240	401	595	255	272

Between 1925 and 1930, there was a rise in the rate of wages by about 27 per cent for Indian workers.

Data collected by the Royal Commission on Labour of the subordinate Staff on railways in September 1929, shows that the average monthly cost per worker was Rs. 18 in the Engineering Department, Rs. 40 in the Transportation Department, Rs. 41 in the Mechanical Workshops and Rs. 70 on the office staff. The information supplied to the Royal Commission also showed that in 1930, 54 per cent of the workers employed on 12 principal railways were in receipt of less than Rs. 20 per month.

The wages of the plantation workers in India are the lowest. In the Assam Valley Tea Gardens, the average monthly earnings of the settled men workers are Rs. 7-13, of women Rs. 5-14 and of children Rs. 4-4.[2] These workers are given some concession regarding free housing, medical treatment, etc. But on the whole, their conditions are very bad. Dr. Kuczynski gives us a consolidated table of the movement of wages during the last 58 years in different industries as below :—

[1] *Ibid.*, p. 324.
[2] Shiva Rao, op. cit. p. 127.

Wages in Individual Industries (1900=100)

	Cotton	Jute	Railways	Mining	Metal Workers	Building Workers	Plantations
1880-89	80	84	87	71	75	90	—
1890-99	90	87	95	81	89	89	100
1900-09	106	106	109	119	112	109	104
1910-19	142	128	139	176	138	133	122
1920-29	273	194	245	255	190	195	170
1930-38	242	148	286	191	171	168	121

In all industries wages had a tendency to rise up to the end of the first World War. The rate of increase was more or less similar in different industries, except in the mining industry where there was a rise above the average, and in the plantations where there was a lag. But though money wages showed a fairly uniform trend in the upward direction, this cannot be taken as a fair indication of an upward tendency in real wages.[1]

System of Wage Payment and Wage Fixing

Payment by piece work is found in a large number of factories. In 1926, for instance, the number of workers including men, women and children paid by the piece amounted to about 48 per cent in Bombay and about 45 per cent in Ahmedabad. In coal mines all work underground is paid by the piece. In the railways the workers are daily rated or monthly rated. In most other industries wages are paid by the time rate.

In almost all industries wages are paid in cash and indirect payment is not common. The most important forms of indirect payment were practices connected with the truck system. Some mineowners in Madras have been reported to be issuing orders on shopkeepers to supply provisions to the labourers. In some factories, grain departments were established where grain could be bought 10 per cent below the market price. In these factories, wages were paid partly in cash and partly by ticket. The Buckingham and Carnatic Mills in Madras maintain stores for the supply of provisions, and in Bombay 40 per cent of the mills under the control of the Millowners' Association conduct cheap grain stores, where grain is sold at wholesale prices for cash as well as on credit. In the latter case, the price of commodities sold is recovered on pay day.

Under the Payment of Wages Act, 1936, no payment of wages can be delayed beyond one month and the common practice is to pay by the

[1] Op. cit., p. 131.

month. Unskilled and casual workers are usually paid by the day. In the jute mills in Bengal, all textile workers are paid by the month.

Before the coming into force of the Payment of Wages Act, delay in the payment of wages was common, and was a factor in increasing the indebtedness of the workers. The length of time which elapses between the end of the period during which wages are earned and the day of payment varies in different provinces and industries. While daily wages are paid on the day on which they have been earned, weekly wages are paid 2 to 5 days later, and before the 1936 Act, monthly wages were paid from 10 to 15 days after the end of the month. There are instances where the waiting period for monthly wages was extended to a month. The main purpose of postponement is to keep a hold upon the worker. Long periods of waiting involve hardship for the workers; relief is sometimes given in the form of a wage advance. Under the new Act, wages must be paid before the expiry of the 7th day in undertakings employing less than 1000 workers and before the expiry of the 10th day in other cases. One wonders as to why the employers should be given such latitude of 7 to 10 days.

However convenient it may be for factory owners to continue the practice of delaying payment, it is undoubtedly a great hardship on workers. The long period before the first pay day usually about 6 weeks, and the long subsequent periods, are responsible for the growing indebtedness of the workers, who are compelled to borrow money at ruinous rates of interest. An attitude of indifference on the part of Government—even the Popular Governments when they were in office—is only possible in a country where labour organisation is yet in its infancy.

Fines and Deductions

Certain deductions from wages of workers are common in the textile mills. The Indian worker is said to be irregular in attendance and careless of the employers' machinery, raw materials and finished products. The practice of fines was found to be general in all parts of Bombay Province in an official enquiry in 1928. The three chief offences against factory discipline punishable by fines have been (a) improper observance of time, (b) damage to machinery, materials or goods, and (c) certain improper behaviour.

To people accustomed to village life, one of the most irksome features of the factory system is the necessity of observing time schedule. If the Indian worker lives far away from the place of work, he cannot hear the whistle, he often arrives after the work has started. The fine

is either fixed in amount or graded according to the degree of lateness. In many cases, the late comer is not admitted, particularly where labour is plentiful. Workers often absent themselves without notice. A fine equal to two days' wages for every day of absence is applied. Continued absence is followed by dismissal.

Fining for bad work is frequently resorted to in the case of weavers who are required to purchase the cloth they have spoilt. The Bombay Fine Enquiry Committee found that this custom was followed in 58.3 per cent of the textile mills in the province. The Indian Tariff Board condemned this practice on the ground that it caused irritation far beyond the good it was intended to produce. In 46 of Bombay Presidency's 206 textile mills, there were 50,981 cases of fining, averaging Rs. 3-4-7 each. The amounts collected by fines were credited to revenue ; they were large enough to be considered worth while by millowners.

Another deduction from wages which causes irritation arises from the refusal of mills to pay wages more than three months overdue. Another practice is the confiscation of wages due in addition to summary dismissal for forbidden conduct such as smoking in specified places.

The Payment of Wages Act, 1936, laid down that fines can only be imposed for acts and omissions specified in notices. They cannot be imposed on children under 15 and the maximum amount may not exceed an amount equal to half-an-anna in the rupee of the worker's earnings in any month. Fines must be recorded in a register, and the proceeds applied to purposes beneficial to the persons employed in the undertaking. According to the Factory Departments Statistics, fines realised from workmen in the cotton textile mills in the Bombay Province amounted to Rs. 1½ lakh in 1937. Fining as a means of enforcing discipline is practically abolished in British industry. There is no reason why this discredited practice should be continued in India.[1]

Commissions (Dasturi)

There is another kind of deduction from wages which sometimes rises to a considerable percentage of the wage. This is known as dasturi. The jobber or foreman by whom the worker is employed charges for the original appointment and collects something from the periodic wages. A Labour Intelligence Officer from Bengal says in regard to it, "Dasturi exists but cannot be proved. . . . The lack of proof is not due to its non-existence but to the unwillingness of individuals to disclose details."[2]

[1] Employers are now abandoning the fine system in favour of locking out individual workers for periods upto three weeks, an improvement upon the fine system. (Kuczynski, op. cit. p. 133.)

[2] Quoted by Buchanan, op. cit. p. 337.

He points out that where penalties have been laid down for receiving dasturi the result has been to drive the practice underground. There was clear evidence according to him that the practice prevailed from one end of the recruitment system to the other. The coal mines have a particularly bad reputation with regard to this practice. It has been stated by persons acquainted with mining conditions that the practice extends even to the managing agency firms.

It is difficult to determine the proportion of the workers' wages which goes in these commissions. It may vary from 1 to 10 per cent of the wages. A woman worker earning Rs. 3 per week in a jute mill told the Royal Commission on Labour that on her first employment she paid Rs. 4 as a bribe to the jobber and 2 annas per week out of her wage and that whenever she returned to work after a few weeks' absence she had to pay a similar sum, namely, Rs. 4. The Labour Commission observed : "We were satisfied that it is a fairly general practice for the jobber to profit financially by the exercise of this power" (of appointment and dismissal). "The jobber himself has at times to subsidise the head jobber ; and it is said that even members of the supervising staff sometimes receive a share of the bribe."[1] The Commission recommend that all power of engagement and dismissal of labour should be taken away from the jobber and entrusted to a labour officer, subject to the sanction of the general manager of the factory. Though labour officers are appointed in many industries, the jobber continues to be the chief recruiter of labour. Even where the *badli* control system is introduced, e.g. in Bombay and Sholapur, the jobber has not lost his influence over recruitment. According to the Government Labour Officer of Bombay, Mr. Pryde, the jobber had not been eliminated in practice for purposes of recruitment.[2]

Standard of Living

It has been pointed out that the earnings of workers are not a reliable guide to their real wages, owing to the absence of accurate wage statistics and cost of living index numbers. The Bombay Labour Office undertook enquiries into workers' budgets during 1921-22, a further enquiry into the budgets of cotton mill workers of Sholapur in 1925 and in Ahmedabad in 1926. A General Wage Census was started in 1934 by the Government of Bombay to collect all possible information regarding wages in all the perennial and seasonal factories in the province of Bombay. The results of an enquiry in Madras were published in 1938. The Labour

[1] Report, p. 24.
[2] Report of the Textile Labour Inquiry Committee, Vol. II, 1940, p. 338.

Commission had also gathered some data in 1930. The results of these enquiries are not strictly comparable as they refer to different years. The following table compiled by the General Report on Industrial Labour in India shows the average size of working class families in different industrial centres :—[1]

Locality and Industry	Number of families	Number of living in the family	Dependants living away from the family	Total
Bombay (1921-22) all industries	2,473	4.20	0.60	4.80
Sholapur (1925) textile	902	4.57	0.11	4.68
Ahmedabad (1926) textile and manual	872	3.87	0.13	4.00
Bombay (1930) textile*	85	3.58	0.88	5.46
Madras textile	79	5.82	0.06	5.88
Coimbatore textile	96	4.89	0.25	5.14
Cawnpore textile, engineering and leather works	729	3.40	1.08	4.48
Nagpur textile and others	102	4.54	0.17	4.71
U.P. Railways	253	4.33	0.91	5.24
Bihar and Orissa Railways	213	4.84	0.69	5.53
Bengal Railways	156	3.78	1.53	5.31
South Indian Railways	283	5.78	—	5.78

The size of the working class family varies in different centres. The small number of absentee dependants in Madras is probably due to the fact that most of the workers have settled down in the city and constitute a working class completely detached from the land. In all other cases, the workers have family relations in the village. The table given below shows the number of wage earners in the family :—[2]

Centre	Number of families	Percentage of families having: One Earner	Two Earners	Three or more Earners	Total
Bombay 1921-22	2,473	53.50	39.10	7.40	100
Sholapur 1925 ..	902	36.00	40.20	23.80	100
Ahmedabad 1926	872	48.39	39.91	11.70	100
Cawnpore 1930	729	78.30	18.50	3.20	100
Madras 1930 ..	79	—	53.20	46.80	100
Coimbatore 1929-30 ..	96	51.00	32.00	17.00	100

[1] Geneva Report, p. 273.
* All the subsequent inquiries relate to 1930.
[2] *Ibid.*, p. 276.

The same report gives us the following table of average monthly earnings of some working class families :—[1]

Locality and description of Families	Date of enquiry	Number of families	Average number of persons or units per family	Average monthly earnings Rs. as. ps.
Bombay working class .	1921-22	2,473	4.20	52 4 6
Sholapur cotton mill workers	1925	902	4.68	39 14 10
Ahmedabad working class ..	1926	872	4.00	44 7 2
Bombay City working class ..	1932-33	1,469	3.70	50 1 7

The variations in family income shown by the enquiries were due to the local differences in industrial development, wages and standard of living. In some cases, the variation is found to be due to the extent of subsidiary sources of income. In Ahmedabad, for instance, it was found that 7.4 per cent of the average income was derived from subsidiary sources like selling milk, fish, vegetables and doing odd jobs.

The table on the next page which we also owe to the same source brings together the data for average monthly family incomes and family expenditure.

This table taken by itself does not give us a correct idea of the economic condition of the working class population in industrial centres. All that it tells us is that taking an average income of Rs. 40 per month, about 55 per cent of the income is absorbed in food which works out an expenditure of Rs. 22 per month for the family. Taking an average family to consist of four persons, the expenditure on food per capita every month would be Rs. 5.8. It is obvious that the average factory worker consumes less than he requires for the maintenance of health and vigour. Diet charts recently prepared lay down a minimum expenditure of Rs. 7 per month on food alone, whether vegetarian or non-vegetarian.

If we consider the first four items of expenditure in the table supplied by the Geneva Report, the average expenditure amounts to 75 per cent of the total income. If we include other necessary expenses like washing, bedding and household articles, the percentage will increase to 85. Thus the proportion spent on the necessaries of life is evidence of the inadequacy of the wages and of the narrow margin between subsistence and semi-starvation.

The studies on food consumption of workers conducted by the Bombay Labour Office, which were based upon investigation of 2,473 family budgets, show that the average adult male worker consumes less of almost every commodity than is prescribed for the inmates of Bombay jails.

[1] *Ibid.*, p. 277.

Analysis of Some Family Budgets of Industrial Workers in India[1]

Locality & Industry	No of Budgets	average monthly income	Average monthly Expenditure	Percentage expenditure on main consumption group: Food	Clothing	Rent	Fuel & Lighting	Household requisites	Miscellaneous	Balance
		Rs. As. Ps.	Rs. as Ps.							
Bombay, all industries (1921-22)	2,473	52 4 6	47 14 5	52.32	8.40	7.67	7.29	2.26	18.06	4 6 1
Sholapur, textile (1925) ..	902	39 14 10	37 13 11	52.76	12.70	6.72	10.28	1.08	16.46	2 0 11
Ahmedabad, textile and manual (1926	872	44 7 2	39 5 8	57.90	9.45	11.74	7.04	1.16	12.71	5 1 6
Bombay, textile (1930)[2] ..	85	55 0 9	51 9 4	57.11	7.33	10.58	7.12	3.14	14.72	3 7 5
Calcutta textile	125	34 7 0	32 1 6	64.9	7.50	4.74	7.13	1.72	14.01	1 5 6
Madras textile	79	33 12 3	32 9 7	60.71	3.84	8.29	7.54	0.29	19.33	1 2 8
Coimbatore textile ..	96	28 3 2	33 0 3	57.70	6.21	5.05	6.81	0.44	23.79	4 13 1*
Cawnpore textile, engineering and leather works ..	729	25 8 6	24 14 10	48.12	7.44	8.76	6.02	1.75	27.91	0 9 8
Nagpur textile and others ..	102	29 8 0	33 8 0	58.13	8.32	2.15	7.99	1.56	21.85	1 0 0*
U.P. Railways	253	22 0 0	—	57.30	8.80	4.80	6.10	2.10	20.90	—
Bihar and Orissa Railways	213	24 0 0	—	59.10	6.80	1.80	4.40	1.80	20.10	—
Bengal Railways	156	27 2 4	—	52.70	5 70	4.60	4.40	1.40	31.20	—

[1] Geneva Report, p. 280. [2] Subsequent enquiries all relate to 1930. * Amount of deficit.

The following table gives us the comparative figures :—[1]

Articles in 2,473 family budgets of working class families in Bombay (in lbs.)		Daily consumption in Bombay jails per adult male (in lbs.)		Daily consumption by Madras Textile Workers
		Hard Labour	Light Labour	
Cereals ..	1.29	1.5	1.38	1.13
Pulses .	.09	.27	.21	.07
Beef & mutton	.03	.04	.04	—
Salt ..	.04	.03	.03	0.5
Oils ..	.02	.03	.03	0.3
Others	.07	—	—	.09
Total	1.54	1.87	1.69	—
				1.37[2]

As jail diet is considered to be on the borders of a subsistence minimum, it is evident that the factory worker in India lives below the margin of subsistence, and his food condition as a free labourer is worse than that of convicts. This is borne out by the following table :—[1]

Comparative Body-weight of Spinners in Mills and Prisoners in Jails
(in lbs.)

Province	Average Weight of Spinners	Average Weight of Prisoners	Difference
Bombay ..	102.09	112.12	10.03
Central Provinces	100.92	110.45	9.53
United Provinces	107.01	115.08	8.07
Bengal ..	107.93	115.05	7.12
Eastern Bengal & and Assam ..	108.00	110.85	2.84
Punjab ..	113.08	115.05	1.97
Madras ..	113.64	114.38	0.75

We may well be permitted to doubt if the condition of industrial workers in India has definitely improved during the last fifty years. We reproduce below a table from Dr. Kuczynski's work :—[4]

Money Wages, Cost of Living and Real Wages
(1900=100)

Years	Money Wages	Cost of Living	Real Wages
1880-89 ..	97	69	127
1890-99 ..	94	85	112
1900-09 ..	107	97	111
1910-19 ..	135	143	98
1920-29 ..	211	207	103
1930-38 ..	184	143	129

[1] Report on an Enquiry into Working Class Budgets in Bombay, 1923, pp. 19-20.
[2] See footnote p. 135, Kuczynski, op. cit.
[3] Kuczynski, op. cit., p. 136.
[4] Op. cit., p. 132.

Money wages up to the end of the first World War showed a fairly uniform tendency to rise ; real wages on the other hand indicate a tendency to decline. During the last war and the early post-war years money wages rose rapidly, while real wages declined. During the thirties real wages had an upward trend, but the rise in real wages has been regarded as deceptive. "For the wage data refer to gross wages, and do not take into account the gigantic wage losses through unemployment and short time in the early thirties. Net money wages, if one could compute them, would show that real wages in the thirties are considerably below the level of the eighties."[1] The intensity of work, moreover, is much greater than 60 years ago, as indicated in the following table :—[2]

Factory Production, Factory Employment and Productivity
(1919-23=100)

Years	Production	Employment	Productivity	Productivity in Mines
1919-23	100	100	100	100
1924-28	119	117	102	118
1929-33	134	114	118	127
1934-38	181	126	144	127

An increase in the percentage of industrial workers is accompanied by increase in production. According to Dr. Kuczynski, "there are few countries in which we can observe such an increase of productivity as in India." This is likewise to be related to diminution in hours of work per day and per shift. "If we take into account the decline in the number of hours worked, and if we compute an index of productivity per hour, then we find that productivity in the factories has increased by considerably more than 50%, while that in mines has increased by more than one-third."[3] The increase in the intensity of work is also evidenced by the rapid increase in the rate of accidents in India, a rate unprecedented, as we have said, in the history of capitalism.[4]

Turning again to the average earnings of cotton weavers and spinners as they are estimated by the League of Nations Report in the table already quoted by us, we find that these earnings are very much higher than the estimates furnished by Provincial Factory Inspection Reports.

[1] *Ibid.*
[2] *Ibid.*, p. 129.
[3] *Ibid.*
[4] Shall we dedicate these facts to those who continue in diversified ways to sing in glorified strains about the provision for "free enterprise" "which is truly enterprising," and who maintain that "there should be sufficient scope for the play of individual initiative ?" (See Plan of Economic Development for India," by Sir Purshottamdas Thakurdas and others, Part II.)

The average earnings of the cotton weaver in 1937 were Rs. 30 per month in the C.P., Rs. 25 per month in Bengal, Rs. 28 in the Punjab and Rs. 27 in Madras. Those of the spinner are Rs. 15 in the C.P., Rs. 14 in Bengal, Rs. 20 in the Punjab and Madras. The Jute spinners on an average earn Rs. 17-4 and the weavers Rs. 31 per month. In the Cotton Textile Industry in the Bombay Province, the average monthly earnings of all adult workers in all occupations (1934) were Rs. 35 in Ahmedabad, Rs. 28 in Bombay, Rs. 25 in Poona and Rs. 19 in Sholapur.[1] The average monthly earnings for men in all Engineering occupations excluding unskilled workers (all factories) were Rs. 41-8 in Bombay, Rs. 33 in Ahmedabad, Rs. 29 in Poona and Rs. 22 in Sholapur. The average for the whole province was Rs. 38.[2] An average monthly family income was Rs. 50 in Bombay, Rs. 46 in Ahmedabad, Rs. 40 in Sholapur. The average monthly family income (1938) in organised industries in Madras was Rs. 37 and in unorganised industries Rs. 20 to Rs. 27. As the average families numbered 4 persons of whom 1½ to 2 were wage earners, these average incomes are reduced by ½ to 1/3. When from these low incomes we make allowances for indebtedness and likewise for the commission the workers have to pay to jobbers from month to month—an item for which the Geneva Report has made no allowance—the picture that suggests itself is the picture of the labouring population struggling on the margin of subsistence, if not below it, in industrial areas. The Bombay Labour Office in their study of family budgets pointed out that no less than 47 per cent of the families were in debt. The usual rate of interest was 75 per cent per annum and interest on debt showed an average expenditure of 3 per cent of the total monthly expenditure.

The fact that the industrial workers are sunk in debt as much as the agricultural classes is fully recognised by the Labour Commission. "We are satisfied that the majority of industrial workers are in debt for the greater part of their working lives. Many are born in debt . . . many come to industry because they are in debt. . . . It is estimated that in most industrial centres the proportion of families or individuals who are in debt is not less than 2/3 of the whole. We believe that in the great majority of cases, the amount of debt exceeds three months' wages and is often far in excess of this amount. . . . A debt of even one-fourth of a year's wages is a heavy burden, particularly to a man whose income is little more than sufficient for his bare necessities. But the burden is aggravated out of all proportion by the rate of interest which has to be paid. A common rate is one anna in the rupee per

[1] General Wage Census, Part I, 1937, p. 118.
[2] *Ibid.*, Engineering Industry, Part I, p. 97.

month. This is 75 per cent per annum."[1] "One anna per rupee is a conservative estimate of the average payment ; one month's wages in the year is probably a more accurate guess. . . . But whatever the figure. the result is almost invariable ; the indebted worker has to give all of what might otherwise be his saving to the money-lender ; and these payments are not merely the surplus that would be spent on petty luxuries ; they have often to be provided by trenching on the primary needs of a healthy life."[2]

The report of the Special Officer on the standard of living of jute mill workers states that the maximum interest charged is 325 per cent or one anna per rupee per week. The average rate of interest is 78 per cent. The enquiries made for the Royal Commission into the standard of living in the United Provinces give 75 per cent as the commonest rate in Cawnpore.

In view of this serious cut in the worker's income on account of the burden of debt, it would be misleading to assume that money wages are in any sense a measure of their standard of living. There are employers who have contended that the Indian worker has a fixed standard of living which is on a low level, that when he has earned enough to maintain that level, he is satisfied and has no further inclination to work, and that increased rates of wages do not have the results which they have in other countries. This view is sometimes generalised when we have been told of the "uneconomic" outlook on life which marks all classes of people in India. It may be admitted that there are workers in India, as there are in other countries, lacking in ambition and a desire to improve their standard of life. It may also be said that there is a willingness to put up with sufferings which it is difficult to reconcile with an incentive to work. But the generalisation about all Indian workers is obviously based upon the narrow and limited experience of employers in coal mining and tea gardens, where the workers come from villages and are anxious to go back to the villages to cultivate their fields and join their families after having earned enough to carry with them a small amount of savings.

When we turn from the indebtedness of the workers to their health in industrial centres, we are faced with another problem of a serious character. As early as 1918, the Industrial Commission, discussing the conditions of labour in towns observed : "There is substantial agreement between the best informed witnesses that the remedies are a rise in the standard of comfort and improvement in public health. These

[1] Report, p. 224.
[2] *Ibid.*, p. 226.

ends can be attained only by education, improved housing, and a general policy of betterment, in which an organisation for the care of public health must play a prominent part. . . . But housing is a most urgent necessity . . . the needs of domestic sanitation in large towns are most pressing. The problem not only on moral grounds but also for economic reasons, must be solved with the least avoidable delay."

Thirteen years later, the Royal Commission on Labour repeat the same story of neglect and indifference, both on the part of employers and the Government, to the question of the health and housing of the working population. "We feel that the time for inaction and delay is past and a beginning should be made."[1] And again, "There can be no doubt that particularly with regard to housing, it is imperative that immediate action is urgently necessary to counteract the serious effect on the health of the workers for which present conditions are responsible. Evidence is not lacking that part of the labour unrest which has characterised industrial development during recent years is due to the realisation, however vague, on the part of the worker that his standard of living is too low, and that he can never hope to raise that standard until his home provides him with a degree of comfort which is at present beyond his reach."[2]

Eight years later again, we have the report of the same story of neglect and indifference. "The housing conditions," states the Geneva Report on Industrial Labour, "of the majority of the industrial workers of India are deplorable." We have already referred to the bearing of food and diet on the health of the worker. The Indian factory worker finds it difficult to work for long hours, partly owing to physiological defects caused by the inadequacy both of the quality and quantity of his diet. The following table gives us a comparative idea of the dietary conditions of the workers in different countries :—[3]

	Japan	U.K.	Madras Presidency
	1927	1934	1933
Protein animal (in grammes) ..	15.9	46	2.6
Protein vegetable („) ..	72.6	41	40.0
Total Protein („) ..	88.6	87	42.6
Fat animal („) ..	33.5	109	1.3
Fat vegetable („) ..	14.2	15	36.5
Total Fat („) .	47.7	124	37.8
Carbohydrates („) ..	537.6	425	398.5
Calories	2,732	3,246	2,068

[1] Report, p. 244.
[2] *Ibid.*, p. 294.
[3] "Industrial Problems of India," edited by P. C. Jain, 1942, p. 215.

The 1923 enquiry of the Bombay Labour Office revealed that the Bombay worker, who is certainly much better off than others, consumed food below the jail rations. A further enquiry showed an extra consumption of cheap sweetmeats, fish, vegetables, etc. amounting to an additional 4.6 per cent of the food balance which was equivalent to 113 calories. Thus the Bombay adult worker consumes 2,563 calories.[1] It is interesting to compare this with the minimum of 3,390 calories laid down by the British Medical Association's Sub-Committee on Nutrition and the minimum of 2,800 calories required in Indian conditions as calculated by Radha Kamal Mukerjee.

The problem of diet might well be said to have been criminally ignored in this country in the past. As early as 1924, the All-India Conference of Medical Research Workers, affirmed "that the average number of deaths resulting every year from preventable disease is about 5 to 6 million ; that the average number of days lost to labour by each person in India, from preventable disease is not less than a fortnight to three weeks in each year ; that the percentage loss of efficiency of the average person in India from preventable malnutrition and disease is not less than 20 per cent ; and that the percentage of infants born in India who reach a wage-earning age is about 50, whereas it is quite possible to raise this percentage to 80 or 90. The Conference believes that these estimates are underestimates, but allowing for the greatest possible margin of error, it is absolutely certain that the wastage of life and efficiency which results from preventable disease costs India several hundred crores of rupees each year. . . . The recent census shows that the position in India is one of grave emergency. . . . The Conference believes that the greatest cause of poverty and financial stringency in India is loss of efficiency resulting from preventable disease, and, therefore, considers that lack of funds far from being the reason for postponing the enquiry is a strong reason for immediate investigation of the question."[2]

Exhaustion and illness among the workers is one of the reasons why industrial capitalism in India is faced with shortage in labour in a thickly populated country. "The workers are unable or unwilling to stand working conditions in the factories for any length of time. . . . In the Jharia mining area, for instance, 90% of the adult workers were infected by hook-worm."[3] "Large numbers of people suffer from ill health arising from malaria, hook-worm and other diseases, which sap their vitality, as indicated by the high death rate."[4] We may sum up in

[1] *Bombay Labour Gazette*, April, 1925.
[2] Quoted in "India Analysed," Vol. II, pp. 60-62.
[3] Kuczynski, op. cit., 138. [4] Geneva Report, p. 190.

the words of Kuczynski: "Underfed, housed like animals, without light and air and water, the Indian industrial worker is one of the most exploited of all in the world of industrial capitalism."[1]

Profits

In contrast to the miserably low wages paid to the workers, the profits derived by the capitalists are striking.

The delegation of the Dundee Jute Trade Union to India reported in 1925 about the Jute industry that the total gain to the shareholders in a decade (1915-1924), taking the Reserve Funds and Profits together, amounted to £ 300 million, that is, 90 per cent per annum of the capital, the average wage being £12-10 per annum. (The Jute Industry employed 300,000 to 327,000 workers.)[2]

The average dividend paid by the leading jute mills was 140%, the highest being 420%. The leading jute mill (Gourepore) paid 250% in 1918, 420% in 1919, 120% in 1924, 50% in 1934 and 1935 and 35%in 1939, giving an average of 88% for 1918-39.[3]

The Tariff Board enquiry in 1927 reported regarding the Cotton industry as follows: "An examination of the balance sheets of the Bombay mills shows that for 1920, 35 companies comprising 42 mills declared dividends of 40 per cent and over, of which 10 companies comprising 14 mills paid 100 per cent and over and 2 mills paid over 200 per cent. In 1921, the number was 41 companies comprising 47 mills, out of which 9 companies comprising 11 mills paid dividends of 100 per cent and over."[4]

The Golden Jubilee Booklet of the Empress Mills at Nagpur in 1927 speaks of big dividends paid to the shareholders. "In general it is interesting to note that the total profits of the Empress Mill upto the 30th June, 1926, aggregate over Rs. 92,214,527, which is nearly 61.47 times the original ordinary share capital; and upto the same date, the company has paid Rs. 59,431, 267 in dividends on ordinary shares which works out at 80.86 per cent per annum on the originally subscribed capital. . . . . The original shareholder has consequently gained, by being the first fortunate allottee of a share of the paid up value of Rs. 500 in the company, 2.05 shares given gratis worth to him Rs. 7,838 on the basis of the present market value . . . it has brought him Rs. 19,810 in the shape of dividends."

[1] Op. cit., p. 137.
[2] T. Johnson and J. F. Sime, Exploitation in India, pp. 5-6.
[3] Dr. M. H. Gopal, "Trend of Profits, A Factual Analysis," pp. 19 and 23.
[4] Report, Vol. I, 1927, p. 83.

The average dividend paid by important cotton mills in 1920 was 120%, the highest figure being 365%. Arno Pearse, replying to the criticism against the Bombay Millowners that they had paid very high dividends, says that fixing the rate of dividend lay with the shareholders, and gives an example where they were not satisfied with 400%, but expected 500%, as some new shareholders had purchased shares shortly before the meeting in the expectation of a 500% dividend.

If we turn to collieries, we find the dividends declared by coal mines equally striking, though not so high as with the cotton mills. The Katras-Jharia mines paid 120% in 1918, 1919 and 1920, 160% in 1921, 150% in 1923, dropping to 10% in 1936, giving an average of 70% for 1918-37. About 25% of the mines paid dividends exceeding 15% for a long period. So also the tea companies. The sterling companies—the Amalgamated Tea Estates and the Consolidated Tea and Lands paid 52½% and 29% average dividends respectively during 1924-28. The rupee companies—the Bishunath Tea Co., Hasimara Tea Co. and Patrakola Tea Co. paid an average dividend of 30½%, 30% and 96% respectively during the same period.

Dr. M. H. Gopal, from whose recent study of the Trend of Profits, we have drawn many of our figures on profits, points out that the average rate of profits for any group of enterprise hides the phenomenal gains made by some of the industrial firms. Comparing the trend of profits in India with the trends in the United Kingdom and the U.S.A. he obtains the following significant figures :

Average Earnings (all types of enterprises)
1919-28

India . ..	17.1%
United Kingdom ..	10.5%
U. S. A.	10.6%

There is a similarity in the rate between the United Kingdom and the U.S.A., whilst there is a marked difference between India and the two other countries. The difference is equally marked when the full 20 year period (1918-37) is taken into account. Whilst the average dividends for all types of enterprises in the U.K. was 9.2, in India it was 14%. Even comparing the profit rates in different industries in the two countries, we find that only two industries in the U.K. have declared more than 15% for the whole period. In India, six industries have had an average rate exceeding 15%, three have had a rate exceeding 20% while jute passes the 40% limit for the whole period.

would be wanting severe reduction in wages, allowances, etc.[1] This history of strikes is likely to repeat itself inspite of the Trade Disputes Acts.

With poor housing conditions, with the lines of barracks of a most insanitary character built in the name of improved or model dwellings, sunk in indebtedness, living on a diet inviting malaria and diseases of all other kinds, the industrial factory workers live in an environment which in other countries would be favourable to a revolutionary outburst. But, in India, the workers, illiterate and uneducated as they are, have—shall we say fortunately ?—not yet grown alive to the value of organisation and mass action.

Ahmedabad has set an example of what can be done, under proper conditions by an understanding co-operation between capital and labour. Gandhiji has always insisted on the need for evolving harmonious relations between capital and labour. But clearly such a harmony is inconceivable, unless certain fundamental rights are guaranteed to labour. These would include (1) the right to an adequate wage, (2) the right to decent housing conditions, (3) the right to education and opportunities for healthy recreation, (4) the right to influence industrial policy, and, above all, the right to share increasingly in men's triumphs over the environment, in man's increasing ability to command, as a result of his economic endeavour, not merely a bare competence but a surplus. J. S. Mill, commenting on the results of machinery, observed gloomily about a century ago : "It is doubtful if machinery has lightened the labour of a vast majority of our workers." Economic progress has no meaning if it does not mean a higher standard of life, and, more important still, greater leisure for creative work.

Perhaps, our entrepreneurs and capitalists, whose outlook is not different from the outlook of British employers in the Victorian Age, may be as indifferent to the problems of Indian labour under a free and independent India as they have been so far. In the field of industrial organisation, as in the field of agricultural development, the hope for the future lies not in the direction of private enterprise and enlightened self-interest, but in a larger vision, animating the future rulers of India, and pointing in the direction of socialised industries worked in the interest of the country as a whole.

[1] The Ahmedabad millowners have just announced (June 1945) that all dearness allowance will be stopped, as agreed upon, now that the War in Europe has ended.

CHAPTER XXI

LABOUR LEGISLATION IN INDIA

It was a characterstic of early labour legislation in India that it was enacted to meet the needs of particular industries at different times. No need was felt for a uniform policy in labour legislation. Under the Act of 1935, the Government of India has authority to legislate on all measures relating to labour for the whole of British India. Provincial Governments are also entrusted with concurrent powers for enacting labour legislation.

Plantation Legislation

The plantation industry being the earliest organised industry in India, legislation was necessary for regulating relations between planters and workers. After the abolition of indentured labour, the difficulties of recruiting labour for tea gardens in Assam brought into being a class of professional recruiters called 'Arkattis' whose activities had to be regulated by law. Recruiters were licensed by law and the duration of labour contract was fixed at from three to five years. By the Assam Labour and Emigration Act of 1915, indentured labour was abolished, recruitment by contractors was suppressed and an Assam Labour Board was created for the supervision of recruitment. By an Act of 1926, the penalties imposed on workers for breach of contract were removed in Assam. Similarly, in Madras the Act of 1927 abolished the criminal penalties for breach of contract by workers on plantations.

The Tea District Emigrant Labour Act of Assam, 1932, recognised the right of repatriation of every labourer at the expense of the employer on the expiry of three years after entry into Assam. No child under 16 may proceed to Assam to work on a tea estate, unless it is accompanied by a parent or a relative. Provincial Governments can declare any area to be a controlled emigration area and, therefore, any assisted emigrant, unless he has worked on a tea estate already, may only be sent to Assam by a licensed forwarding agent, acting on behalf of an employer and subject to proper provision for feeding and sanitary arrangements on the journey. Finally, a controller of emigrant labour is to exercise various powers under the Act, and the Assam Labour Board is dissolved.

Factory Legislation

The first Indian Factories Act was passed in 1881. Cotton Mills had started working in Bombay : the conditions under which women and

children were employed aroused public attention ; and Lancashire cotton interests were concerned at the new competitors in the Indian market. The majority of the Factory Commission appointed by the Government of Bombay in 1875 was opposed to legislative intervention. But the Government of India passed the Act of 1881, which made provisions relating to health and safety, and limited the employment of children in factories. Dissatisfaction with the provision for the protection of children and the absence of any regulation of women's labour led to fresh agitaiton. A Bombay Factory Commission in 1884 was followed by a Factory Labour Commission in 1890. The Factory Act of 1891 granted powers to Local Governments to extend the provisions of the Act to premises in which 20 persons or more were employed and limited the hours of work for women to 11 in the day, and of children over 9 to 7 hours in the day. The boom of 1904-5 led to long hours being worked, and the question of regulating hours of male workers began to attract attention.

A Textile Commission in 1906 and a Factory Labour Commission in 1907 made recommendations which were embodied in a new Factories Act of 1911. The principal changes made by the Act were in the direction of limiting the hours of work to 12 in the day for men, and to 6 in the day for children, employed in the textile factories. The Factory Act of 1922 gave effect to the International Labour Conventions of hours of work, the minimum age for admission for employment and the night work for women. Article ten of the Hours Convention laid down that "the principle of a sixty-hour week shall be adopted for all workers in the industries at present covered by the Factories Act administered by the Government of India. By article six, the minimum age convention fixed the age for India at 12 years for employment in factories, in mines and in transport.

The Act of 1922 extended the scope to include undertakings using mechanical power, and employing not less than 20 persons. Local Governments were given the power to declare that undertakings employing not less than 10 persons, and working with or without mechanical power should be deemed to be factories for the purposes of the Act. The hours of work of all adult workers were restricted to 11 in any one day. The minimum age for admission of children to employment was raised to 12. Medical examination for age and physical fitness was imposed for children. In case of overtime, all workers were to receive at least 1¼ times the normal rate of pay.

The Indian Factories Act of 1934 was based on the recommendations of the Royal Commission on Labour. A distinction was for the

first time drawn between seasonal and non-seasonal factories. The Act laid down a ten-hour day for adults in non-seasonal factories. Hours of work for children were reduced from 6 to 5 a day, and those of women from 11 to 10 a day, in both seasonal and non-seasonal factories. Seasonal factories include for the purposes of the Act cotton ginning, cotton or jute pressing, factories for the decortication of groundnuts, and for the manufacture of coffee, tea, rubber or sugar. Women and children were not to be employed between 7 p.m. and 6 a.m. Finally, Local Governments were empowered to make rules prescribing standards of artificial humidification, protecting workers against the effects of excessive heat, requiring any factory employing more than 150 workers to provide shelter for the use of workers during periods of rest, and a suitable room for the use of children under 6 belonging to women.

There were two kinds of factories, which did not come under the Factory Act of 1934 : (1) those which used power but did not employ more than 19 persons and (2) those which did not use power, irrespective of the number of persons employed. The Labour Commission recommended the application by Local Governments of the Factories Act to factories of the first category, the enactment of a new act limiting the minimum age for the employment of children to 10, and making registration with the Factory Inspection Department compulsory for both kinds of factories. The only province that has embodied these recommendations with regard to non-regulated factories is the C.P. By the C.P. Act of 1937, workshops employing 50 or more persons engaged in the making of biddis, shellac manufacture, leather tanning were brought within the scope of the Act. The minimum age for children was fixed at 10, the hours of work were limited to 7 and the hours of work for all adults were limited to 10 in the day.

Mining Legislation

The first Indian Mines Act was passed in 1901. It provided that any excavation twenty feet below the surface where minerals were searched for or obtained was to be regarded as a mine. It provided for the appointment of a Chief Inspector of Mines by the Government of India and inspectors by Local Governments. The Chief Inspector had the power to prohibit the employment of children and women in mines where the conditions were deemed to be dangerous to health and safety.

The Mines Act of 1923 extended the definition of a mine to include any excavation irrespective of depth for searching for or obtaining minerals, and limited the hours of work to 54 underground and 60 overground. The definition of child was amended to mean any person under

the age of 13. Finally, the Indian Mines Act, 1935, based partly upon the recommendations of the Royal Commission on Labour and those of Draft Convention of the International Labour Conference of 1931, limited the hours of work above ground to 54 in the week and 10 in the day. The weekly hours of work underground remain the same, but daily hours were reduced from 12 to 9. The minimum age for the admission of children was raised from 13 to 15. The new Act also provides for a representation of workers by two persons on the Mining Board, to be elected by the workers. The recommendations of the Coal Committee appointed in 1936 were given effect to by the Amending Act of 1937 and again in 1940, providing for the responsibility of the supervising staff to the owners of mines instead of to the raising contractors regarding the payment of wages and salaries. The Coal Mines (Stowing) Amendment Act of 1940 provides for the use of the Coal Mines Stowing Fund set up under the Act for measures to extinguish fires and other protective measures.

Transport Legislation

The railway workshops were covered by the Indian Factories Act of 1922 but the other railway workers were not protected by any legislation. The International Labour Conventions, though ratified by the Government of India, were not applied to railway workers. The Indian Railways Act of 1930 provided for this application by limiting the hours of intermittent work to 84 and non-intermittent work to 60 per week. A compulsory rest of not less than 24 consecutive hours is to be granted with certain exceptions. A Supervisor of Railway Labour has been appointed from the 1st April, 1931, with a staff of ten inspectors.

The Indian Ports Act was first passed in 1889, subsequently amended in 1908, 1922 and 1931. Under the Act of 1922, Local Governments were required to frame rules prohibiting employment of children under 12 on the handling of goods at piers, jetties, docks, warehouses, etc. The Act of 1931 prohibited the employment of children under 12 for handling goods anywhere within the ports. The Act of 1934 gives effect to the ratified revised Draft Convention, and empowers the Governor-General to make regulations.

The Indian Dock Labourers Act of 1934 provides for accidents while loading and unloading ships ; and the Indian Merchant Shipping Act of 1931 gives effect to the ratification of International Draft Conventions on minimum age. The Act was modified in 1933 prohibiting employment of young persons under 14 except under certain conditions, of young persons under 18 as trimmers or stokers except under

certain conditions, and of young persons under 18 in a ship without a medical certificate of physical fitness. The hours of work of young persons as stokers or trimmers are not to exceed 6 per day. A space of not less than 12 superficial feet and not less than 72 cubic feet must be available for use to every seaman or apprentice engaged under the Act.

Other Legislation

Shop Legislation was undertaken in several Provinces. Bombay was the first Province to pass the Bombay Shops and Establishments Act in 1939, regulating the hours of work and conditions of employment in shops and commercial establishments, restaurants and theatres. The hours of work are limited to 9½ per day with half an hour's rest after five hours of work. A weekly holiday is made obligatory. Bengal, the Punjab and Sind passed similar Act in 1940.

The Children (Pledging of Labour) Act of 1933 was passed with the object of abolishing child slavery and the Employment of Children Act of 1938 prohibits the employment of children under 15 in any occupation connected with railways and ports. The Act of 1939 prohibits children under 12 from being employed in any bidi-making and certain other categories of workshops.

The Industrial Statistics Act, 1942, was passed by the Central Government by which Provincial Governments are permitted to collect statistics with regard to (1) prices of commodities, (2) attendance, (3) living conditions including housing, water supply and sanitation, (4) indebtedness, (5) rents, (6) wages, (7) provident and other funds provided for labour, (8) hours of work, (9) industrial and labour disputes and other matters. This act has been brought into force by two provinces (Bombay and Bengal) only, since March, 1943.

Debt Legislation

The Labour Commission made a few recommendations regarding imprisonment for debt. Under the Civil Procedure Code, any male debtor could be arrested and imprisoned for six months in execution of a decree for the payment of Rs. 60 or more, and for six weeks in the case of a smaller sum. The Commission recommended that in the case of an industrial worker receiving less than Rs. 100 per month, arrest and imprisonment for debt should be abolished. As a result, in 1934, a Relief of Indebtedness Act was passed in the Punjab abolishing imprisonment for debt, except when the debtor refuses to pay a sum within his capacity from such property as is liable to attachment. Later in 1936, the Civil Procedure Code was amended preventing the imprisonment of debtors.

An Act of 1937 exempts from attachment all salaries of workers not exceeding Rs. 100 per month, and lays down that the pay of servants of Government and railway companies receiving more than Rs. 100 per month would be exempt to the extent of the first Rs. 100 and one half of the remainder.

The Royal Commission on Labour found that there were "money-lenders who prey upon workers and depend upon the threat of violence. The lathi is the only court to which they appeal and they may be seen waiting outside the factory gate on pay day, ready to pounce on their debtors as they emerge."[1] They recommended that besetting an industrial establishment for the recovery of debts should be made a criminal offence, and defined besetting as "loitering within the precincts or near or within the sight of any gate or outlet of the establishment." This recommendation was subsequently adopted in Bengal by the Bengal Workmen's Protection Act, 1935, and in the C.P. by the Protection of Debtors Act, 1937.

The Labour Commission also made certain recommendations regarding liquidation of debts of the workers. The Government of India prepared a scheme to be applied to Delhi in the first instance but it was dropped. The C.P. Adjustment and Liquidation of Industrial Workmen's Debt Act, 1936, based on the Delhi Scheme provides for liquidation of debts of industrial workers earning not more than Rs. 50 a month and whose debts exceed their assets plus three months' wages.

We do not think it necessary to refer to other legislative measures like the Workmen's Compensation Act, the Trade Disputes Act, and the Maternity Benefit Acts which we have described and commented upon in other sections. We append a summary of changes involved in the various Factory Acts passed from time to time.

The necessity for co-ordinating labour laws, and for removing inequality in labour conditions in the Provinces as well as the lack of uniformity and consistency in the labour policies of the Provincial Governments led the Government of India to convene a conference of Labour Ministers from the Provincial and State Administration in New Delhi in January, 1940. The decisions reached at the conference were circulated to the Provincial Governments. The Second Session of the Labour Ministers Conference was held in January, 1941, and the third session in January, 1942. Presiding at the Third Session, Sir Firoz Khan Noon suggested the desirability of having joint meetings of employers, workmen and Government representatives in tripartite conferences for avoiding strikes and lockouts and handling all problems connected with labour,

[1] Report, pp. 235-6.

and this suggestion was followed up by a Plenary Conference in August, 1942, with a view to setting up a standing Advisory Committee for the purpose of advising Government on all labour problems. A bill was also introduced in the Central Legislative Assembly, in April 1944, providing for holidays with pay for seven days in a year to workers who have completed a period of 12 months' continuous service in a perennial factory.

It may be noted, however, that these laws are applicable to organised industries in British India only. As Shiva Rao observes : " In fact, taking all labour legislation into account, affecting factories, mines, plantations, docks, railways, harbours, etc. it is doubtful whether more than 7 or 8 million at the outside would come within its protective influence. The rest, who constitute by far the great majority of the industrial workers, are engaged in small, or what are known as unregulated industries."[1]

Labour Welfare

We have no accurate information about welfare work conducted by our employers in India. It is well known, however, that concerns like the Railways, the Tata Iron and Steel Co., the Buckingham Mills in Madras, the Sassoon Group in Bombay and the Empress Mills in Nagpur have adopted welfare measures in connection with their employees. These schemes of welfare work have been placed under experienced welfare officers. But apart from these concerns, our Indian employers have not even grown alive to the need for welfare work amongst the labourers. With the advent of Congress Ministries in the Provinces, the Provincial Governments have taken up the question. In Bombay Province mainly through the efforts of Gulzari Lal Nanda, Parliamentary Secretary for Labour under the Congress Ministry, a sum of Rs. 1,20,000 was set apart in the budget of 1938-39 for industrial welfare. The example of Bombay was followed by the U.P., Bengal, Sind, the C.P. and Bihar. The Central Government has recently appointed Mr. R. S. Nimbkar as Central Advisor on Labour Welfare to the Government of India. Welfare work as undertaken by the Bombay Government covers outdoor and indoor recreation, the provision of libraries, reading rooms, canteens, magic lantern lectures, nursery schools, advice on maternity and health and radio programmes. Centres have been opened in different parts of Bombay City. An Industrial Training Workshop was organised in Ahmedabad, to raise the standard of skill among the cotton textile workers. The Labour Welfare Department in Bombay was placed under the direction of Mr. Gulzari Lal Nanda as Honorary Commissioner for

[1] Op. cit. p. 210.

Factory Legislation in India at a Glance

Year	Definition of a factory	Restriction in Employment: Children	Restriction in Employment: Women	Hours of Work
Act of 1881	Any premises using mechanical power, in which 100 persons or more were employed for 4 months or more in the year.	No child under 7 might be employed. A child was defined as any person below the age of 12. Hours of work of children limited to 9 in the day with rest for one hour.	——	——
Act of 1891	Any premises in which 50 persons or more were employed. Local Governments given power to extend the definition to 20 persons or more.	Child defined as any person below the age of 14. No child under 9 can be employed.	——	Hours of work of women limited to 11 per day with an interval of rest for 1½ hours.
Act of 1911	——	Hours of work for children in textile factories reduced to 6 in the day.	Women and children prohibited from employment in dangerous processes. Employment of women and childen between 7 p.m. and 5-30 a.m. was prohibited.	Hours of work of men employed in textile factories were limited to 12 in the day.

(*Continued on next page*)

Year	Definition of a factory	Restriction in Employment		Hours of Work
		Children	Women	
Act of 1922	Any premises in which not less than 20 persons are employed. Local Governments empowered to extend the scope to undertakings employing not less than 10 persons and working with or without mechanical power.	Child defined as a person under 15 years of age. No child can be employed below the age of 12. Hours of work limited to 6 in the day.	Women and young persons under 18 prohibited from employment in certain lead processes.	Hours of work of all adult workers restricted to 11 in any one day and 60 in any one week. No person to work more than 5 hours continuously. A rest period of one hour which could be divided into two periods, was to be given in respect of 6 hours work done. No person should work for more than 10 days without a day's holiday.
Act of 1934	Distinction introduced between non-seasonal and seasonal factories. The latter defined as those which do not work more than 180 days in the year and include cotton and jute ginning and pressing factories, factories for decortication of groundnuts, manufacture of coffee, lac, rubber sugar or tea.	Hours of work reduced to 5 a day in both seasonal and non-seasonal factories.	Hours of work reduced from 11 to 10 a day in both seasonal and non-seasonal factories.	54 hours a week and a 10 hours day for adult workers in non-seasonal factories. 60 hours week and 11 hours day for seasonal factories.

amenities to Industrial Labour. After his resignation in 1941, the work was transferred to the Commissioner of Labour. Similar activities have been started in the U.P. at Lucknow, in Bengal at Calcutta, and in Sind at Karachi. We can only hope that with the end of the war, a National Government may grow alive to the urgent need of organising welfare work which has been hitherto so woefully neglected.

CHAPTER XXII

INDUSTRIAL RELATIONS

Employers' Organisations

It is worth while noting that, whereas organisations on the part of factory workers are of very recent growth, large scale employers have long been organised in India for various purposes, and have constantly been consulted by the Government of India and Local Governments in regard to labour policy. On the other hand, taking into account the fact that workers are uneducated, lacking in experience and leadership, and living on subsistence wages, it is a matter of satisfaction that they should have succeeded in organising even a few sound trade unions in certain industries. Trade Unionism in India may correctly be said to be in a very early stage of development.

(a) The first organisations of employers in India were associations of Europeans. It is only recently that Indian employers have developed organisations of their own. The employers' organisations are either (1) commercial associations, (2) industrial associations, or (3) employers' associations in the strict sense of the word. The most important commercial associations are the Chambers of Commerce, both European and Indian, including merchants, bankers and businessmen. The first European Chamber of Commerce was founded at Calcutta in 1834, and at Bombay and Madras in 1836. The first Indian Chamber of Commerce was founded at Calcutta in 1887 under the name of the Bengal National Chamber of Commerce. The Indian Merchants' Chamber was established in Bombay in 1907. Other commercial associations include the Marwari Chamber of Commerce, Calcutta (1900), and the South Indian Chamber of Commerce, Madras (1909). These organisations are not employers of industrial labour, but they exercise considerable influence on the development of the labour policy, both of the employers and of

the Government. The communal spirit has reflected itself, recently, even in the field of commercial organisations. A separate Muslim Chamber of Commerce has been instituted, indicative of the new phase of capitalist development in India, when Muslim bourgeoisie competes with Hindu bourgeousie under the slogan of Pakistan.

(b) The Industrial Associations include the Bombay Millowners' Association (1875), the Indian Tea Association (1881), the Indian Jute Mills' Association (1884), the Ahmedabad Millowners' Association (1891) and the United Planters' Association of Southern India (1893). Moreover, as in the case of the European Chambers of Commerce, Indian commercial and industrial associations have realised the need of a central organisation, with a view to co-ordinating their commercial and industrial interests, and for this purpose the Federation of Indian Chambers of Commerce and Industry was founded in 1927. In order to take part in international discussions, they have also joined the International Chamber of Commerce, and formed an Indian National Committee.

(c) The third class of employers' organisations are associations formed with the express object of dealing with labour questions. The most important of these organisations are the Employers' Federation of Southern India (1920), the All-India Organisation of Industrial Employers founded in 1933 by the Federation of the Indian Chambers of Commerce and Industry, and the Employers' Federation of India founded by the Bombay Millowners' Association in March, 1933. These organisations were founded in order that the employers may have a common labour policy for the country as a whole, and may be in a better position to take part in the deliberations of the International Labour Conference. The chief aims and objects of the Employers' Federation of Southern India are to encourage the payment of fair rates of wages, to protect the mutual interests of employers and employed, and to safeguard employers against unfair action by workers. The All-India Organisation of Industrial Employers and the Employers' Federation of India have for their objects the establishment of harmonious relationship between labour and capital, the securing of proper representation in the Legislatures, and the nomination of delegates and advisers to represent the employers at the International Labour Conference.

Most of these Associations are represented on Legislatures and Municipalities. Employer members find a place on all Commissions and Committees like the Industrial Commission and the Royal Commissions on Labour. They exercise considerable influence in this way in the form

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lation of any policy relating to labour by Government. Employers' Associations, moreover, play an increasingly active part in determining the conditions of labour, as most of the industries are now highly organised. Thus, in the cotton industry the Bombay Millowners' Association after a strike in 1920 reduced the hours of work to 10 in the day, before the Act of 1922 reduced them to 60 per week. The granting of bonuses or cost of living allowances to their workers is also determined by the Millowners' Associations of Bombay and Ahmedabad.

Labour Organisations

The first case of collective action by Indian workers was in 1884 when a conference of workers drew up a memorial to the Factory Commission. It was not, however, till 1897 that an organisation of labour namely the Amalgamated Society of Railway Servants was registered under the Indian Companies Act. Later in 1907 the Postal Union, and in 1910 the Kamgar Hitwardhak Sabha were formed in Bombay. In 1918, the textile workers at Madras formed an industrial organisation. Since then, the number of such organisations has been rapidly increasing in almost all industries throughout the country. The rise in the cost of living during the war and in the boom period following it, the consciousness of their importance brought about as a result of war among the labourers, and the necessity of strikes during 1918-22 to raise wages, led to the formation of a number of trade unions. In the development of trade unionism in India, the existence of the International Labour Organisation has played an important part. The need for a Central Organisation to nominate delegates to the International Labour Conference stimulated not only the founding of such central organisations but also the formation of individual unions.

That labour in India has been late in recognising the need for combination was noted as early as 1905 in a letter by the Collector of Bombay, to the Bombay Government. "If the millowners desire to increase the hours, the operatives have no real power to prevent them. Their power of combination is as yet exceedingly limited ; a large proportion will always continue to prefer to get as high wages as they can, regardless of their own welfare in the long run."[1] Indian labour in the early days was unable to combine with the object of securing a common end by concerted action. One essential condition for the growth of trade unionism is the existence of a class of wage earners divorced from the ownership of the means of production. In India, the factory worker is an

[1] Quoted by P. P. Pillai, op. cit. p. 258.

agricultural labourer who retains his interest in land. It was not till a class of workers, detached from the land and looking to some definite form of industrial employment for the means of subsistence, arose that trade unionism acquired a hold over the labouring population. The years that followed the close of the last war was a period of high prices and stimulated the formation of Trade Unions. In 1925, the total number of Unions was reported to be 175. In 1929, 51 Unions claiming over 190,000 members were affiliated to the All-India Trade Union Congress, which was formed in 1920, to enable organised labour to send its delegates to the International Labour Conference. In 1937, 63 Unions with a membership of over 151,000 workers were affiliated to the National Trade Union Federation, which was formed as the consequence of a split at the Nagpur meeting of the Trade Union Congress in 1929. The split arose on the question of boycotting the Royal Commission on Labour. In addition, a number of unions were still affiliated to the All-India Trade Union Congress. There were other unions which were not connected with either of these national federations.

In 1929, the All-India Trade Union Congress was captured by radicals with communist leanings. The moderate section led by Mr. N. M. Joshi seceded from the Congress, forming a new organisation known as Indian Trade Union Federation. In 1931, there was a further split when the left wing formed the All-India Red Trade Union Congress. A Trade Union Unity Conference called at Bombay in 1931 established the National Federation in 1933. This was amalgamated with the Indian Trade Union Federation in 1933. In 1938, at a joint session of All-India Trade Union Congress and National Trade Union Federation, it was decided to combine the two bodies into one central organisation with fifty-fifty representation on the General Council. In spite of such apparent union, Mr. M. N. Roy and Mr. Jamnadas Mehta have formed another organisation known as the Trade Union Federation at Delhi, for wholehearted support of Indian Labour for war purposes. Recently, however, there has been a split between Mr. Roy and Mr. Mehta on the question of the Government subsidy of Rs. 13,000 per month granted to Mr. Roy, for the purpose of carrying on war propaganda among the workers. A resolution to this effect, however, was dropped by the All-India Trade Union Congress at Delhi in 1942 for want of quorum. The Ahmedabad Textile Labour Union is the biggest and best organised trade union. It was established under the influence of Gandhiji.

The table on the next page shows the growth in the number of registered unions after the passing of the Trade Unions Act, 1926 :—.

Year	Registered unions	Returns from number of unions	Total membership	Average membership per registered union
1927-28	29	28	100,619	3,409
1928-29	75	65	181,077	2,414
1929-30	104	90	242,355	2,693
1934-35	213	183	284,918	1,557
1937-38	420	343	390,112	1,137
1938-39	562	394	399,119	1,013
1939-40	667	450	511,138	1,136
1940-41	727	483	513,832	1,064
1941-42	747	455	573,520	1,260

The total income of the registered trade unions increased from Rs. 1.6 lakhs in 1927-28 to Rs. 6.9 lakhs in 1937-38, to 11.2 lakhs in 1939-40 and Rs. 17.7 lakhs in 1941-42. The average income per union worked out at Rs. 3,884 and Rs. 3-1-4 per member for 1941-42.[1] Thus, in spite of the rapid development of trade unionism during the last few years, the resources of these unions are exceedingly limited and the membership comparatively small.

There are several types of trade unions in India. At the bottom of the scale, the Labour Commission placed the unions 'which represent little or nothing more than the one or two men who fill the leading offices. . . . The object is to give a platform and a name to the leaders." This type was at one time characteristic of Bengal more than of any other province, but is disappearing even there. The next type mentioned by the Commission consists of unions brought into existence for a definite and an immediate object. They have their origin in the genuine need of the workers. The usual form is a " strike committee " which disappears at the end of the strike.

Apart from these temporary unions, there are crafts unions like the Weavers' Trade Unions which are combinations of workers employed in different kinds of occupations in the same or allied industries. Industrial unions are combinations of workers in the same industry like the National Seamen's Union of India registered in 1932 and the G.I.P. Railway Workers' Union also registered in the same year. To the same class belongs the Girni Kamgar (Red Flag) Union of Bombay organised in 1928 with 50,000 cotton mill workers. Provincial and national federations of trade unions are also found in India. The most important national federations are the All-India Postal and Railway Mail Service

[1] *Indian Labour Gazette*, July, 1944.

Conference, the All-India Railwaymen's Federation, the All-India Trade Union Congress and the National Trade Union Federation.

Influence of Trade Unions

Even a superficial comparison of the figures of trade union membership with those of the workers employed in organised industries is enough to show that the unions have not succeeded in organising any considerable majority of the workers. When we inquire into the reasons of the weakness of trade unions in India, there are certain obvious factors which have to be taken into account and which have been examined by the Royal Commission on Labour.

(1) One serious obstacle to the development of the trade union movement is the migratory character of Indian labour. "Those who are frequently leaving an industrial centre, even for short spells, and are frequently changing their employer, are less inclined than more permanent workers to maintain a constant interest in any organisation."[1] (2) The conditions under which industrial labour has to work with comparatively long hours, lack of leisure and a scale of pay which may well be characterised as subsistence pay, make it difficult for the workers either to pay the small subscription which membership would involve, or to take a genuine interest in any activity outside their work. (3) As the Labour Commission observe, differences of language and race are separating factors which make it difficult for the workers to combine. (4) There is the active opposition of the jobbers whose interests conflict with those of the workers. (5) The lack of education on the part of the workers is a most serious obstacle in the way of organisation. On account of the inability of the worker to take a long view of his interests, apart from his inability to contribute liberally to trade union funds, trade unions in India have been able to achieve very little in the shape of improving the condition of the workers and their standard of comfort.

The Labour Commission expressed its conviction that "nothing but a strong trade union movement will give the Indian workmen adequate protection. . . . There are strict limitations to the power of Government and the public to protect workmen who are unable to protect themselves. Labour laws, indeed, find one of their most effective sanctions in the support of organised unions." "It is in the power to combine that labour has the only effective safeguard against exploitation and the only lasting security against inhuman conditions."[2] The Indian Trade Union Act, 1926, was the first attempt to recognise trade unions under the law.

[1] Report, p. 321.
[2] *Ibid.*, p. 322.

The Act is confined to those unions which voluntarily seek registration under it. Unions registered under the Act are required to furnish audited accounts, and to include a majority of actual workers in the executive. Registration confers on trade unions and their members some degree of immunity from civil suits and criminal prosecutions. After the passage of the Trade Union Act, 1926, the Government of India and several Provincial Governments advised the unions of their employees not to apply for registration. This was due to the difficulty of reconciling the privileges which their employees received as members of registered unions with their obligations under the Government Servants' Conduct Rules. The Royal Commission pointed out that those rules were framed primarily to regulate the conduct of officials outside the ranks of labour, and that, so far as industrial workers were concerned, the Government should encourage them to secure registration. The Government has now changed its policy and unions of industrial workers employed by Government are required to register.

Private employers have tended to recognise unions subject to rules made by themselves. They have refused to recognise unions, because they include only a minority of the class of workers concerned, or because another union has been already in existence. Refusal of recognition is also due to the fact that a union does not dispense with the services of a particular official, or because outsiders are included in its executive, or because a union has failed to register under the Trade Unions Act. The Commission observe in this connection that neither the minority character of a union, nor the prior existence of another union, is a good reason for refusing recognition. "The endeavour to dictate to unions on the subject of their officers or leaders is equally short sighted and unwise."[1] There can be no doubt that, under the conditions of factory labour in India, one of the obstacles to the development of trade unionism is the difficulty of finding leaders within the ranks of labour. If trade unionism is to grow in India, for some time to come the leaders have to be found amongst outsiders. In some cases victimisation and more frequently the fear of it, gives an additional value to the outsider. As the Labour Commission observed, "The claim to be allowed to deal only with 'one's own men' is frequently little more than an endeavour to secure that the case of the men shall be presented by persons who are not likely to prove assertive. In every country much of the active work of trade unions, particularly in their relations with employers, is carried on by persons whose livelihood does not depend on the employers' will."[2]

[1] *Ibid.*, p. 324.
[2] *Ibid.*, p. 325.

The Commission does not hesitate to characterise the attitude of the employers towards outsiders as unreasonable. It even asserts that, if such an outsider is a dismissed employee, the attempt to suppress such individuals by repressing their organisations or by insisting on their exclusion has seldom been successful.

It would appear that recognition by employers in India is generally limited to individual employers. There is very little of collective bargaining in the sense of negotiations between organisations of employers and organisations of workers. The only trade union which has succeeded in establishing collective bargaining is the Labour Union at Ahmedabad, where since 1920 there has existed a permanent arbitration board consisting of a representative of the Union and a representative of the Mill-owners' Association. Grievances are, in the first place, discussed between the Union and the Association ; if agreement is not reached, disputes are referred to the arbitration board for final decision.[1]

Indian labour is represented by trade union leaders both in Central Legislative Assembly and in the Provincial Legislative Councils such as Bombay and Bengal. Trade union leaders were members of the Royal Commission on Labour, the Round Table Conference and the Indian Franchise Committee. Most of these representatives are nominees of the Government, but the selection of the trade union leaders tends to increase the status and stability of the trade unions. Representatives of unions have also attended meetings, such as the British Trade Union Congress, the Annual Congress of the International Labour Organisation, and successive sessions of the International Labour Conference.

In spite of the progress made in recent years, the Indian trade union movement suffers from internal weakness and external opposition and misunderstanding. It is still dependent on outside leadership. Most of the leaders are professional men, lawyers and social workers and are, therefore, lacking in the technical knowledge and that sympathetic insight into the problems of the workers, which a leader belonging to the rank and file of labour is expected to possess. The leaders are often connected with a number of unions—their attention is divided—and the philanthropic nature of their work is apt to weaken their sense of responsibility. The trade union movement in India may well be summed up as neither self-reliant nor financially self-sustaining.

Taking a wider view of the movement, it might be observed that the

[1] Royal Commission on Indian Labour : Memorandum for the Government of Bombay, pp. 235-236.

trade union movement is a characteristic development of 19th century capitalism. With the outbreak of the last war, the trade unions assumed a quasi-public character, with the Government as an important but posing as a disinterested party. In the countries, where labour was in power or represented a substantial majority in the post-war period, the system of Government control of wages and industrial councils directed by the State was continued. Even in Great Britain and the U.S.A., governmental intervention was accepted by trade unions in view of growing distress and unemployment. The outbreak of the present war has profoundly altered the character of trade unionism as a voluntary agency for the improvement of the status of workers. Even if, with economic recovery at the end of the war, existing forms of capitalism find a new lease of life, the adoption of national economic planning will render superfluous the work of such agencies as the trade unions of earlier days, which served to protect the interests of the workers in a society governed by *laissez-faire* principles. Trade unions, in advanced countries to-day, have no longer to fight for improvement in the conditions of employment, but largely for a share in the management of industry .

We in India at the end of the war will find ourselves faced with the same problem. Shall we pass through the evolutionary stages of a capitalist society necessitating the further development of trade unionism, or shall we, profiting by the lessons of the past in the West, order our economic life on a basis of socialised industries, which will remove the need for trade union organisation for the *express purpose of strikes* by removing the conflict between labour and capital ? Shall we not convert the unions into organisations for the promotion of the social and cultural life of the workers ?

Industrial Disputes

The need for improved organisation of industrial relations in India is brought into evidence by the frequency of strikes. Isolated disputes took place as early as the eighties of the last century, but it was not till 1918 that strikes became serious. There were two general strikes in Bombay in 1918-19 and 1920 involving about 150,000 workers ; two in Ahmedabad in 1920 and 1921 involving 30,000 and 33,000 persons. During 1920 and 1921, there were strikes among cotton mill workers at Sholapur, postal workers, tramway workers and railway shop workers, lasting from a fortnight to five months. " The main cause was the realisation of the potentialities of the strike in the existing situation, and this was assisted by the emergence of trade union organisers, by the education which the war had given to the masses, and by a scarcity of labour arising

from the expansion of industry, and aggravated by the great epidemics of influenza."[1]

Accurate data on industrial disputes were not available till 1921, when a Labour Office was established by the Government of Bombay. The following table shows the number of disputes in India from 1920 :—

Year	Number of disputes	Workers involved (in thousands)	Working days lost (in millions)
1921	396	600	7.0
1926	128	187	1.1
1931	166	203	2.4
1936	157	169	2.4
1937	379	648	9.0
1938	399	401	9.2
1939	406	409	5.0
1940	322	452	7.6
1941	359	291	3.3
1942	694	773	5.8
1943	716	525	2.3

Of the strikes which have occurred since the post-war period, one of the most serious was in the cotton industry in Bombay City in 1924 ; it involved over 160,000 workers and caused a loss of 7.75 million working days. The immediate cause of the trouble was the decision of the Millowners' Association to withhold the annual bonus, which had been granted for 5 years, and had become part of the wages. A further strike caused by the decision of the Bombay Millowners' Association to reduce the dearness allowance by 20 per cent broke out in September, 1925. The Millowners finally decided to restore the cut, but not before the strike had caused a loss of about 11 million working days. During 1928, the total loss due to strike amounted to 31½ million days. There were 203 disputes out of which 111 were in Bombay and 60 in Bengal ; 110 were in the cotton and wool textile industry. The recrudescence of industrial unrest in 1937 may be partly explained by the advent in that year of Popular Governments in the Provinces. Of the 379 strikes in that year, no less than 221 were in the cotton textile and jute industries.

Dealing with the causes of industrial disputes, the Royal Commission on Labour quoted statistics to show that " in 976 disputes the principal demand related to the question of pay or bonus, and in 425, to the question of personnel, that is, to the reinstatement or dismissal of one or more individuals. 74 strikes were primarily concerned with leave or hours of work, and the remaining 382 could not be classified in respect of the demand made." There can be no doubt that the strikes that broke out

[1] Labour Commission Report, p. 333.

after the close of the last war had economic reasons behind them. In 1918, although the profits of some textile undertakings rose 200 per cent, the real wages of the workers had declined owing to rise in prices. Moreover, the workers had suddenly awakened to the disabilities from which they suffered in respect of long hours and bad conditions of work. It may also be admitted that political influences had their share during the post-war period. After 1922, the hours of work had been reduced and wages had gone up, accompanied by a fall in prices. The period between 1923 and 1927 was a period of comparative peace. With the advent of depression and the disappearance of profits, as well as the endeavours made by employers to meet the situation by improvement in the methods of production and reduction in wages, there was again a marked increase in the number of strikes.

The Labour Commission was emphatic on one matter, that "causes unconnected with industry play a much smaller part in strikes than is frequently supposed. . . . Although workers may have been influenced by persons with nationalist, communist or commercial ends to serve, there has rarely been a strike of any importance which has not been due entirely or largely to economic reasons."[1] The employers in India are instinctively inclined to lay the blame of strikes on agitators. Every organiser of a trade union in India is put down as an agitator and a fomenter of mischief. Mr. B. Shiva Rao, a labour representative to the International Labour Conference, describes the attitude of the employer in a graphic way: "I have no objection to a properly constituted union, an employer will tell you. His definition of such a union is that there should be no outsiders in the executive. The law no doubt allows it, but an employer is not bound to have dealings with such a union even if it be registered under the law. A union with outsiders is tainted and deserves no notice. But let one be formed with only workers in it; sooner or later, the members of the executive find themselves one by one out of work; never, of course, will it be admitted, because they are active in promoting the union—but it happens every time."[2]

Added to this hostility on the part of the employers is the support which the employers receive from Government. "The full strength of the Government, from the highest official to the village policeman, is behind the employer." What the employers have failed to realise is that, even in the absence of trade unions, workers can always form themselves into strike committees, and clever selfish demagogues may foment

[1] Report, p. 335.
[2] "India Analysed," Vol. II, 1934, p. 43.

trouble, whereas stable trade unions might secure advantages both to the workmen and their employers. As the Cawnpore Labour Enquiry Committee observed : "A strong union is an invaluable asset in several ways, and is an insurance against unauthorised, irregular and lightning strikes."

Prevention and Settlement of Disputes

Reviewing the methods for prevention or settlement of disputes, the Royal Commission on Labour considered the part that might be played by works committees. Such committees had been working for some years in the Buckingham and Carnatic Mills. They pronounced the results "disappointing." "In the minds of many employers there is the belief that works committees will provide a substitute for trade unions, while these are regarded by trade union leaders as rival institutions, deserving of no encouragement."[1] The only instance where a works committee has met with success is at Ahmedabad, where the influence of Gandhiji, trusted by workers and employers alike, has been instrumental in the settlement of disputes.

In 1921, representative committees were set up in Bengal and Bombay to consider the possibility of alleviating industrial unrest. The Bengal Committee rejected as inapplicable to Bengal all schemes involving an element of compulsion by law, and advocated the settlement of disputes by agreement through joint works committees. In case of strikes in public utility services, a conciliation board was to be set up on application of one or both of the parties, the Board to rely on public opinion to get its findings accepted. In the case of other disputes, a conciliation board was to be constituted at the express request of both parties. A conciliation panel was formed and reconstituted every year, as the result of this recommendation but its services were never requisitioned.

The Bombay Committee recommended the standardisation of wages, the undertaking of housing and welfare work, the establishment of works committees and the recognition of trade unions. For the settlement of disputes, the Committee recommended that legislation should be passed providing for the establishment of courts of equiry, composed of representatives of employers and employees. After the results of the enquiry had been made public, and if necessary, the court might be entrusted with the duty of conciliation. The Court of Enquiry could be set up at the request of either of the parties. No action was taken on the recommendations of this Committee.[2]

[1] Report, p 342.
[2] *Labour Gazette*, April, 1922.

The Trade Disputes Act of 1929 empowers Local Governments, or the Central Government where the employer is a department of the Central Government or a railway company, to refer "any matters appearing to be connected with or relevant to" an existing or apprehended dispute to a court of enquiry, or to refer the dispute to a board of conciliation; the same action must be taken on the application of both the parties to a dispute. A court of enquiry is to consist of one or more independent persons appointed by the Local Government or the Governor-General; a Board of Conciliation may consist of an independent person as Chairman and two or four members who may be independent persons or representatives of the parties, or of one independent person. The duties of the Court of Enquiry are confined to the investigation of the matters referred to them, and to reporting to the authority which appointed them. Boards of Conciliation, on the other hand, are charged with the duty of attempting to effect "a fair and amicable settlement," and if no settlement is reached, then of reporting to the appointing authority. The statutory obligations of the public authorities end here, reliance being placed on public opinion to induce the parties to accept the recommendations made in the report.

The question (a) whether it should be made obligatory on the public authorities to refer disputes to arbitration and (b) whether force of law be given to the findings of the tribunals were examined by the Labour Commission, who found both these proposals open to serious objections. The Commission, however, expressed the hope that the authorities would make greater use of their powers to appoint courts of enquiry or boards of conciliation. This opinion was obviously based upon prior knowledge of industrial disputes between 1921 and 1928. There were 22 disputes in this period in which boards of conciliation or courts of enquiry were appointed, and in most of them the award was accepted by both sides. But Government still remained indifferent and apathetic to the use of this machinery. Though there were more than 500 disputes during the period 1929-1933, only two courts of enquiry and two boards of conciliation were appointed by Government. Between 1928 and 1936, although 11 disputes were settled by conciliation or arbitration, only in three of them was action taken by the Provincial Governments under the Trade Disputes Act. When the Congress Governments came into power in the Provinces, within a year of their assumption of office, 15 disputes were referred to committees of enquiry and boards of conciliation with remarkable results. Under their regime, "the right of the workers to form unions has been conceded by the employers. Wages have been increased—particularly for the textile workers. Holidays with pay have been recommended, and

in some centres granted by the employers : schemes of sickness insurance are being evolved, and will form the basis of legislation or voluntary agreement at several centres."[1]

The Trade Disputes Act of 1929, modelled on the British Trade Disputes Act of 1927, renders general strikes and lock-outs illegal on the ground that such strikes may compel the Government to take or abstain from taking any particular course of action. It requires a fourteen days' notice of strike in public utility concerns. The Royal Commission on Labour points out that the Act has "tried to copy the less valuable part of the machinery employed in Great Britain, while ignoring the most valuable part."[2] There less reliance is placed on *ad hoc* public enquiries of the kind contemplated in the Indian Trade Disputes Act than on the efforts at settlement before strikes and lock-outs can be declared.

The Act was amended in 1932 embodying recommendations of the Royal Commission on Labour to protect members of enquiry courts or conciliation boards from prosecution for disclosure of confidential information relating to trade unions or individual business. In 1934, the Act was made permanent.

In 1934, the Bombay Trade Disputes Conciliation Act was passed to provide for the settlement of disputes by conciliation and for certain other purposes. In the first instance, the Act was applicable to the textile industry in the City and suburbs of Bombay but the Local Government has been given the power to extend it to other parts of the province. It provides for the creation of a Conciliation Board with the Labour Commissioner as ex-officio chief conciliator and a Government Labour Officer to guard the workers' interests. Penalties are provided for obstructing conciliation proceedings. Picketing in respect of a strike while conciliation proceedings are pending is not prohibited, but any picketing against conciliation proceedings themselves is illegal.

In 1938, the Bombay Industrial Disputes Act was passed under the regime of the Congress Ministry which replaced the Act of 1934. The Act divides trade unions into "representative," "registered" and "qualified". A trade union will be registered if it has a membership of 5 per cent of the total number of workers and is recognised by the employers, or if it has 25 per cent membership independently of the employers' recognition. A union with only 5 per cent membership not

[1] Shiva Rao, "Industrial Worker in India," 1939, p. 198.
[2] Report, p. 348.

recognised by the employers becomes a " qualified " union. A registered union which has had a membership of 25 per cent of the total number of workers for a continuous period of six months becomes a " representative " union. In the absence of a registered union, the workers can select five workers from their own ranks to represent their case. Three distinct steps are provided before a strike or lock-out can be declared. Notice has first to be given. Negotiations will follow, and if an agreement is reached, it will be registered. If no settlement is reached, the contending party has to submit a full statement of its case. The dispute is recorded and the chief conciliator submits a report to the Government. Finally, in case of failure the Government can refer the matter to a Board of Conciliation. During the conciliation proceedings, strikes and lock-outs are illegal. So far, conciliation was not obligatory but now it is made compulsory. The Act provides an elaborate machinery of conciliation with a permanent Industrial Arbitration Court. The Labour Officer is the ex-officio conciliator. There is provision for local and special conciliators and *ad hoc* boards of conciliation. Strikes and lock-outs before the completion of conciliation proceedings are declared illegal, but the acceptance of award is not obligatory.

There can be no doubt that the Bombay Trade Disputes Act deprives Labour of an effective instrument without any compensatory advantage. The regulations regarding the registration of unions, though modified in the final bill, are likely to encourage unions favoured by employers.[1] Looking to the fact that in almost every country the Government is always on the side of the employers in cases of industrial disputes, the deprivation of the strike weapon, even for an interim period of four months during which the conciliation machinery is to operate, can only be regarded as a serious obstacle in the way of the workers in their attempt to improve their status. Strikes will always be regarded as sudden by the employers. Government will always endeavour to maintain law and order in case of strikes. The act under the circumstances cannot unreasonably be characterised as reactionary, on the whole. Moreover, strikes and lock-outs can never be regarded as being on the same plane, as the resisting power of the employees and employers by the very nature of things is so different. Again, industrial peace is likely

[1] It is interesting to note in this connection what the Bombay Textile Enquiry Report says : " Though the fear of company unions being established may not be justified, it must be admitted that the condition of 25 per cent membership for a representative union is very difficult to fulfil, and its imposition may operate as a hindrance in the way of encouraging the growth of trade unions." (p. 379). It is also significant that the original bill had proposed 50 per cent membership, which had to be reduced to 25 per cent owing to strong opposition.

to be tantamount to preservation of the *status quo*. The significance of this measure passed by the first Congress Ministry as an index of the capitalistic development of our economy must not be lost sight of.

In almost every industrial country legislation has been provided to penalise strikes and promote peaceful settlements of disputes. Such legislation when wisely administered has not been without its use. It has not, however, put an end to industrial conflicts ; and strikes continue even where they have been declared illegal. The explanation for the persistence of strikes lies in the double purpose for which it is employed. Firstly, it secures protection in the enjoyment of recognised rights, and such progress as society tends to sanction. But, in the second place, strikes have also a revolutionary character. It is a challenge in a capitalist society by a weaker party to the ruling interests. This is what makes compulsory arbitration in the long run a vain method of dealing with strikes.[1] In a capitalist society with its marked inequalities not only of income but of privilege and power, the strike is the inevitable weapon which the weak employ against the strong. In a country like India, where labour has not yet been properly organised, where the poverty of the working classes makes prolonged strikes difficult and agonising, and where the traditions of non-violence render unlikely some of the effects of strikes, to deprive labour of the right to strike can only mean the perpetuation of the poverty and helplessness of the working classes. The field of politics is a field of constant contradictions and surprises. Dr. Ambedkar, a prominent labour leader, and now the Labour Member of the Government of India, who had once opposed the Bombay Industrial Disputes Act tooth and nail, is now proposing legislation for compulsory arbitration for India on the model of the Bombay Act.

[1] Cf. Tawney, "Acquisitive Society," 1922, p. 116 : "The simplicity of the remedy is so attractive that it is not surprising that the Governments of industrial nations should coquet from time to time with the policy of compulsory arbitration. After all, it is pleaded, it is only analogous to the action of a supernational authority the assumption that their equity is recognised and their permanence desired. In compulsory arbitration is the opposite of any policy which such an authority could pursue either with justice or with hope of success. For it takes for granted the stability of existing relationships, and intervenes to adjust incidental disputes upon the assumption that their equity is recognised and their permanence desired. In industry, however, the equity of existing relationships is precisely the point at issue. A League of Nations which settled the quarrel between a subject race and its oppressors, between Slavs and Magyars, . . . on the assumption that the subordination of Slavs to Magyars was part of an unchangeable order, would rightly be resisted by all those who think liberty more precious than peace. A State which, in the name of peace, should make the concerted cessation of work a legal offence, would be guilty of a similar betrayal of freedom. It would be solving the conflict of rights between those who own and those who work by abolishing the rights of those who work."

Minimum Wage Legislation

Alongside of collective bargaining there has developed of late in some countries the fixing of minimum wages by legislation. Proposals have long been mooted in various provinces of late for legislation in this direction. The Cawnpore Labour Enquiry Committee recommended fixing of a minimum wage of Rs. 15 per month. The Bombay Textile Labour Enquiry Committee which was asked to examine the wages paid to workers and to enquire into their adequacy or inadequacy in relation to a living wage standard, recommended an immediate increase in wages on a sliding scale, ranging from 3 annas in the rupee on a wage of Rs. 13-8 to an anna in the rupee on a wage of Rs. 75 per month. The Royal Commission on Labour observed that the majority of witnesses whom they examined desired the fixing of wages for industrial workers at a level sufficient to provide a reasonable standard of living. The Commission recommended that before a minimum wage fixing machinery could be set up it was necessary to select the industries in which there was strong presumption that the conditions warranted detailed investigation and that the conditions in such industries should be carefully surveyed. If the results of investigation indicated a need for minimum wage fixing machinery in certain industries, the necessary legislation might be undertaken.

The employers in India have never shown any willingness to adopt either a sliding scale or favour minimum wage legislation. The Cawnpore proposal of fixing the minimum of Rs. 15 per month seems to be hopelessly inadequate. The argument on the part of the employers that either a fixed minimum or a sliding scale may be too liberal for the industry to bear is based upon the usual assumption in a capitalist society that the primary concern in the working of an industry is the ensuring of profits and not the welfare of the human labour that makes such profits possible. In a period of war stress, wage rates are automatically raised to secure maximum production. At the end of the war, employers have not found it difficult to pull down wages.

Although there is general agreement as to the beneficial effects of minimum wage laws on the workers, it has been pointed out that there is a tendency for the minimum to become the maximum and for reducing the differential between skilled and unskilled wages. The International Labour Conference adopted a Convention in 1928, whereby the ratifying States agreed to fixing minimum rates of wages in poorly-organised trades, where wages were exceptionally low. The Government of India declared their inability to enter into any commitment nor did they give any indi-

cation of possible ratification. There can be little room for doubt that in a country like India, with a level of wages that cannot even be regarded as adequate to the needs of physical existence, and where labour organisation is still in its infancy, minimum wage legislation with a proper machinery for wage adjustment to price trends is an effective method for improving the status of the workers.

The Bombay Textile Labour Enquiry Committee came to the conclusion that the wages of the workers were quite inadequate to meet the standard requirements of food, clothes, etc. They expressed their inability to fix up any minimum wage due to the complexity of the problem, but recommended Trade Boards for the purpose in which the representatives of capital and labour would jointly, by discussion and conciliation, fix the wage. In the Trade Boards system, the control of wages rests to a large extent with the trade itself, without any outside interference and it is a guarantee against sudden and undue rise of wages, as well as against competitive wage reduction. But such a system presupposes the ability of labour to properly formulate its demands, which is impossible in the present stage of our unorganised, illiterate and ignorant labour. Moreover, we need not suppose that the Trade Board would be able to solve the general problem of low wages or industrial unrest, for these go to the very foundation of the present economic system. Mere absence of strikes is not industrial peace, which presupposes industrial democracy.

CHAPTER XXIII

INDUSTRIAL EFFICIENCY

The term "efficiency" in connection with human labour creates, it may be said, more problems than it solves. The classical economists conceived the problem as one of achieving the maximum return with a minimum outlay. From the point of view of the businessman, that method of production is most efficient which yields the largest output at the lowest money cost. From the point of view of labour, that method is most efficient which yields the largest output at the lowest cost in terms of fatigue, monotony and accidents—the lowest human cost. In the last resort, it should never be forgotten that efficiency has to be judged by the relation between human costs incurred and human benefits produced, and one of the most difficult problems of Social Science is to devise a measure in terms of which they could be compared.

Efficiency in an individual may be defined as ability to bring his scarce resources, be they human labour, intellectual effort, or any material

agent of production to bear on the achievement of results in the productive process. Estimates of relative efficiency in individuals or nations are sought to be arrived at by different methods ; but each method has its own limitations.

Comparisons are sometimes made of the number of workers required in India and in other countries for accomplishing a certain quantity of work. Such comparisons disregard differences in the conditions of work, in machinery, in the nature of raw materials, climate, environment and other factors. In spite of the difficulties involved in such comparisons of relative efficiencies of workers in different countries, it is not altogether valuless to consider estimates of the efficiency of workers in different countries on the basis of the evidence submitted to the Royal Commission on Labour by employers in India. Thus, according to the Cotton Yarn Association, Ltd., in a Japanese mill 18 operatives look after 1,000 spindles. whilst in India 30 to 31 operatives have to be employed for the same number of spindles. This comparison may be misleading, if interpreted too literally, but it conveys some idea of the difference. So also in respect of weaving, 48 men are required to look after 100 looms in Japan, whereas in India 98 are employed. In the evidence submitted by Mr. Sasakura of Japan to the Labour Commission, the following table is to be found :

	Total no. of operatives	Total wages bill per day Rs.	Total per 100 looms per day Rs.
Japanese mill 840 looms	115½ (weavers) 140 (all girls)	334.21	39.78
Bombay Standard 840 looms ..	465	920.37	109.56
Manchester Mill (Bombay) 800 looms	318	680.78	85.09

With the introduction of efficiency schemes in a few mills in Bombay in 1927, it was expected that millowners would be able to rationalise their plants and standardise processes with a view to raising the level of output. Industrial unrest and falling prices had led the millowners of Bombay to introduce schemes of rationalisation. The effects of rationalisation upon the spinners are best illustrated by the following table :—[1]

Number of Operatives Required to mind 60,000 Spindles

	Before Rationalisation		After Rationalisation	
Court	Ordinary Draft	High Draft	Ordinary Draft	High Draft
20	1,314	834	514	469
30	875	741	467	416
40	927	744	406	312
80	917	682	302	225

[1] "Wages and Unemployment in the Bombay Textile Industry," Government of Bombay, 1934, p. 17.

In view of the results indicated in the table, there is no wonder that with relative abundance of labour, there has been strong opposition to rationalisation schemes by labourers, due to fear of unemployment and lowering of wages. It must, however, be remembered that the employers naturally resort to rationalisation in order to reduce costs of production, whenever there is labour unrest, and demand for higher wages which, if accepted, would neutralise the advantage of cheap labour. Ordinarily labour being comparatively very cheap, there is no incentive to introduce rationalisation.

In the jute industry, it was pointed out in evidence before the Commission that "one foreign worker either in Dundee or the Continent has to do work that requires the services of two operatives in India." In the coal mining industry, where the wages are low and the workers are migratory and labour recruited from hill tribes, it was found that whereas in India 131 tons of coal were produced per annum per worker employed, in Great Britain 250 tons of coal were produced per worker, in America 780 tons, and in Transvaal 426 tons.[1] In the iron and steel industry, the Indian workman was said to be not so strong physically as the European workman, and it was pointed out that the Tata Iron and Steel Works employed, in relation to output, a far greater number of workmen than a similar plant did in Western countries.

It has to be remembered that when comparisons of this kind are made, the conditions of work are not the same. Better facilities are given to the workers in foreign countries by way of tools and machinery than are given to Indian workers. On the other hand, it has been said that machinery is run faster in Eastern than in Western countries. In America, machinery is relatively cheap and labour dear. An attempt is, therefore, made to obtain maximum results by attaching vast amounts of machinery to one labourer. His productive capacity is fully utilised, even though he may have so much machinery under him that some of it is always idle. In India conditions are very different. Due to cheapness of labour, maximum results are sought by applying a larger number of labourers to a single machine. The productive capacity of a machine has to be fully utilised, even though so many labourers are employed that some are always idle. "In the one case, machines are kept in abundance so as to derive the largest return from expensive labour, while in the other, cheap labour is kept in abundance in order to secure the largest return from the expensive machinery."[2]

[1] Evidence of the Chief Inspector of Mines in India—Report of Labour Commission, Vol. IV, Part I, p. 234.

[2] Buchanan, op. cit., p. 378.

It is also observed that the efficiency of Indian labour has improved during the past few decades. This opinion is not fully shared by all observers. The opinions of present day mill officials are divided. There is undoubtedly improvement in the efficiency of labour, but the improvement in the product per machine has been greater. We have also the view expressed by the Tariff Board, when examining the case for protection of the match industry, that the number of employees in an Indian *match factory* "*does not much exceed the standard prevailing in* European countries," and "it is probable that in the immediate future the number will be still further reduced." It also refers to the remarkable progress in the efficiency of Indian labour, and observes that "there is reason to believe that, in a well-organised Indian factory, labour charges *form a smaller item in the cost of manufacturing matches than is the case* in other countries."

The Factory Worker

Admitting, however, as correct the statement of the Royal Commission on Labour that the Indian industrial worker "produces less per unit than the worker in any other country claiming to rank as a leading industrial nation", let us briefly review the main characteristics of Indian factory labour, which may be regarded as weaknesses, and the causes that may be regarded as responsible for these deficiencies. We have already noticed some of these characteristics in other sections. Factory labour is recruited in the main from villages. The breaking up of the isolation of the village by better communications, and the prospect of finding employment in the town, attracted those landless labourers who were hitherto supported by the village in exchange for menial services. The farmers who were deprived of their lands by the money-lender, and those who farmed uneconomic strips of land, were also drawn to the town where they found work in the slack agricultural season. The factory worker who comes from the village keeps his family in the village, and goes back to the village for reasons of health or to attend to his farm. His work is, therefore, often irregular ; he can never reconcile himself to the rigorous discipline of the factory. The Factory Labour Commission of 1908 observed that, "the Indian factory worker is in general incapable of prolonged and intense effort. He may work hard for a comparatively short period, but even in such cases the standard obtained is much below what would be expected in similar circumstances in any European country. His natural inclination is to spread the work he has to do over a long period of time, working in a leisurely manner throughout, and taking intervals of rest whenever he feels disinclined for further exertion."[1]

[1] Report, pp. 18 *et seq.*

The average worker in a textile mill, it was alleged by the Commission, spent from one and a half to two hours everyday, in addition to statutory mid-day interval, away from his work. The loitering habit of the worker was accounted for by Dr. T. M. Nair in a dissenting minute attached to the Factory Commission's report as due to prolonged hours of work. It was 'a device to reduce the intensity of labour as a safeguard to his own physical well-being.' "The experience of other countries," stated Dr. Nair, "that short hours of work have also reduced the interruptions in the course of the day, has been realised at least in one mill in India, and in the face of this fact to charge the Indian labourer with ingrained habits of idleness is the refuge of the sweater." The Commission themselves recognised that, with a reduction in the hours of work and with better supervision, it was possible to train the workers to regular and steady habits.

Another characteristic of Indian labour is its intermittent character. Generally speaking, about 10 per cent of the labour force in any industry is always absent and not less than 30 per cent is off at harvest time. This feature of Indian labour is familiarly known as 'absenteeism.' Absenteeism, observes the Report of the Labour Commission, "is an omnibus term, covering absence from many causes. There are few managers who can say precisely which workers are away because they are idling, which are kept away by sickness, and which have gone on holiday meaning to return. Even workers who have left with an intention of returning may be treated for a time as absentees."[1]

Few organised industries in India grant leave of absence with pay to workers. Absence without permission is punished by fines or dismissals. Moreover, jobbers treat workers who return after leave of absence as newly engaged workers from whom a commission must be taken for re-employment. Whatever the cause, absenteeism is to some extent the result of a lack of provision for holidays and leave. Such absenteeism results in a large amount of labour turnover in all industries. The Labour Commission found that in a large number of factories fresh employees engaged each month were 5 per cent of the total establishment, thus giving an annual turnover of 60 per cent. This high rate of labour turnover involves constant readjustment on the part of the workers to new factories and new machinery and methods. It also involves a lack of personal contact between the management and the workers, and finally a loss of efficiency on the part of both management and labour. Another feature of Indian labour, as the result of the rural

[1] Report, p. 26.

bias, is the relative inefficiency of the worker in the more skilled industries. It must be remembered, however, that organised industries have not been in existence in India long enough to give rise to a class of workers possessing the skill and dexterity of English or German workers.

The conditions under which the workers have to work are by no means satisfactory. In a hot country like India, the factories have been built on the models of British factories. They do not possess enough of light and ventilation. It is only comparatively recently that the Government of India has appointed an expert to advise as to proper types of humidification devices which would not injure health. No adequate facilities are provided in the shape of medical aid, pure water, sanitary latrine arrangements, dining sheds, and facilities for bathing so very necessary in a tropical country like India. All these are elementary facilities which would very favourably react on the efficiency of labour; and yet these are sadly neglected by our capitalists in their greed for profits. Duties so grossly neglected by employers have been enforced by legislation. A Press Note (1937), which the Government of Bombay had to issue laying down its labour policy, makes satisfactory dining accommodation and adequate medical aid a legal obligation on the employers.

We need not repeat here what we have said in another section regarding the insanitary living conditions and their effect on efficiency.[1]

Leaving the discussion of the relative inefficiency of Indian labour, when we inquire into the causes of this inefficiency, we have to take into account a variety of factors. If, in the first place, industrial efficiency is to be traced back to racial characteristics in so far as such efficiency involves inventive genius and mental ability in general, India has had a tradition going back to very remote times of having developed sciences like algebra and astronomy, medicine and architecture.

(2) Efficiency depends upon elements in the physical environment like temperature, moisture, and the topography of the country. The heat and humidity in our country are unfavourable to a long life and to health and vigour. The damp air of the rainy season is exceedingly enervating and there are months which are too hot for strenuous and quick movements. It is not surprising that under such conditions the factory worker is not stimulated to work by all the attempts on the part of his employer, nor increase his production. He refuses to be speeded up. The tropical conditions are also said to be favourable to

[1] See section on Efficiency and Environment in the chapter on "Industrial Labour."

the growth of pathological organisms. They bring diseases like cholera, malaria and hook-worm, which either cause premature death or sap the vitality of the workers. We must not, however, forget that human intelligence can considerably modify the operation of the conditions concerned with climate and humidity on human welfare. Micro-organisms can be brought under control, and diseases can be eliminated, as has been already done in Panama and Manilla and other parts of the world. The dry and hot atmosphere of the workshop can be changed into one of cool comfort by refrigeration and humidification. By a change in working hours, much of the mid-day heat can be avoided.

(3) We have discussed elsewhere the low wages of the workers and their effect on efficiency.[1] If we compare the different centres of industry, we find that efficiency of workers usually varies with the level of wages. A gradual increase in the level of wages has been followed by an increase in efficiency as has been proved in the case of Ahmedabad. Wage levels in Ahmedabad were lower than in Bombay 25 years ago, and the Ahmedabad workers were less skilful than the Bombay workers at that time. The Ahmedabad wage level first caught up the Bombay level and then surpassed it, and to-day it is definitely higher. The Ahmedabad millowners admit that the efficiency of their workers has increased ; and the Bombay millowners allege that it has so far increased that even with the higher rates, the labour costs per 1000 spindles or 100 looms in Ahmedabad is lower than the corresponding figures in Bombay.[2]

(4) A vital factor that has to be taken into account in considering the inefficiency of Indian labour is poverty and disease. The abject poverty of the people of India is a truism. Even Government have on various occasions admitted the existence of poverty among the masses. Thus to take an illustration : "There is a vast amount of what can only be termed dangerous poverty in the Indian villages—poverty that is to say of such a kind that those subject to it live on the very margin of subsistence."[3] It has been calculated that the annual amount of grain available for food from 1900 to 1922 was only 47.8 million tons as compared with 81 million tons required for the population. In other words, food consumption in India fell short of the needed consumption by more than a third.[4] As we have shown elsewhere, the *per capita* amount of food consumed by the Indian masses is even below the prison ration.

[1] See section on Wages.

[2] D. R. Gadgil, "Regulation of Wages and the Problem of Industrial Labour in India," 1943, p. 85.

[3] "Moral and Material Progress in India," 1927-28, p. 97.

[4] Zutshi, "Population and Subsistence in India," in *Modern Review*, September, 1927.

With starvation there is disease. Small-pox, cholera and influenza are always with us. It has been said that the entire rural population in Madras and 70 per cent of the population in Bengal suffer from hook-worm. The causes for the prevalence of disease are sought in ignorance and poverty. Some people lay a large share of the blame on climate; there are others who assert with greater reason that assuming sanitary surroundings, proper food and housing and proper rules of hygiene, there should be no more room for diseases on a large scale in warm countries than in cold. Major Norman White, the Sanitary Commissioner with the Government of India, declared in 1917 that the weaker physique and lower vitality of the Indian worker which have caused him to be labelled "inefficient" are due to removable pathological causes such as malaria and hook-worm infection. Both are prevalent in India, and both are preventible. Recent experiments have shown that the output of labour which has been treated for hook-worm has increased by as much as 25 per cent and this surprising increase in efficiency has been accompanied by a reduction of disease of all kinds.[1] A dispassionate American observer, writing in 1934 remarks, "India is only at the dawn of the age of hygiene and is a great breeding ground for some of mankind's most virulent disease enemies."[2]

Apart from hook-worm, the commonest disease in India is malaria. 14.29 out of 24.89 deaths per thousand of the population in 1927 were ascribed to fevers, of which the most important is malaria. "No part of India is free from this scourge and the number of days of work which are lost every year on this account must run into many millions. The members of every class and occupation in India are affected, and not only the actual days lost are to be counted but the weakening effects of malaria on the human system must also be taken into consideration, for it saps the energy and reduces the efficiency of its victims."[3] As Shiva Rao points out, "The plain and terrible fact being that the amount of quinine available in India is far too inadequate . . . under existing conditions, quinine is a costly luxury for the vast majority of those who are chronic victims."[4] Besides malaria, there are diseases due to diet deficiencies, rickets claiming 2.3 million cases, and night blindness claiming 3.6 million victims. Cases of tuberculosis are estimated at 5 million.[5]

That India has not improved in health in recent years is indicated by the fact that there has been no improvement in the average length of

[1] Pillai, op. cit. p. 249.
[2] Buchanan, op. cit. p. 384.
[3] "Moral and Material Progress in India," 1927-28, 14-15.
[4] Op. cit. p. 73.
[5] See section on Positive Checks in the chapter on "The Human Factor."

life among the people since 1881, whereas in England and Wales it increased from 42 years in 1885 to 47.8 years in 1910 and 63 at present, and in America from 43 years in 1890 to 62 in 1938. The ultimate effect of ill-health arising from starvation and disease is inefficiency so far as factory labour is concerned. The poverty of the labourers is explained as due to their inefficiency ; but it is easily forgotten that low wages are as much the cause as the effect of the inefficiency of labour.

(5) Next to disease, ignorance as indicated by illiteracy and absence of training opportunities may be regarded as another factor responsible for inefficiency. A very small proportion of the factory workers are able to read and write in any language. In 1931, only 8 per cent of the total population of India was considered even literate. Literacy amongst some of the castes from whom factory workers are drawn is indicated by the following figures :—

Bombay Presidency		**Literate**
Marathas	3	per cent
Mhars, Holiyas, Dheds . ..	1.5	„
Chamars	1.0	„
Kunbis	0.5	„
Ghils	0.2	„
Bihar and Orissa		
Santals	0.4	„
U.P.		
Chamars . . .	0.12	„

For many years, there has been a demand for establishing schools in factories where those who work half time can be educated. Generally, there has been small attendance in the schools owing to indifference on the part of employers and employees alike. Children of 9 to 11 who had worked half day were not in a fit condition for study. It often happened that officers took half-timers to work as full timers when the supply of labour was short. The employees were half-hearted. Adult education is scarcely thought of. As for technical education, as the principal of a technical institute in his evidence before the Industrial Commission observed, " At present there is no means for Gujarati speaking men to understand the principles " of mechanical engineering. In 1939-40, there were only 9 engineering and technical colleges and 642 schools in the whole of India for industrial education.

(6) We have discussed elsewhere the bearing of our social and cultural institutions on economic life. It has been alleged that one of the causes of industrial inefficiency is the religiosity and other worldliness of our people. Is it necessary to refute in detail such a wide generalisation ?

There is hardly any religion in the world which has not exalted the spiritual above the material. and has not dwelt on the momentariness, even the sordidness, of earthly goods and gratifications. We should then have to say like the Russians in the early days of their socialist experiment, that religion is an opiate of the people, for it teaches them to put up with poverty and disease and even injustice. And yet, it is interesting to note that those who bring forward this charge of other worldliness against India are themselves most piously shocked at the godless State which socialism or communism is supposed to represent ! Thus, if it be said that the Law of Karma saps economic incentive to-day, and Moksha is but a solace, and escape from life for the incapable, it only means that we have to search deeper into the causes of this pathological outlook on life into which a whole people has landed itself.

(7) We must certainly take account of the social environment in considering the causes of industrial inefficiency. The caste system has often hindered free mobility of labour. Most of the important industries have drawn the lower classes, generally devoid of education. The zenana which is a Mohammedan custom has influenced the Hindus and has interfered with the freedom of action of women, and deprived them of educational opportunities. To that extent, it prevents India from fully utilising the physical and mental resources of a third, if not, half of the industrial population.

(8) Another important point that is many a time overlooked while discussing the efficiency of labour is the comparative inefficiency of management. This cause may not be found in all cases. But there can be no doubt that in some cases inefficient management is responsible for a comparatively inefficient output.

When we talk of the low efficiency of Indian labour, we must remember, as Buchanan points out, that " Indian labour has had much to contend against in a trying climate, inefficient management,, poor materials (especially in cotton) and a low standard of living aggravated by an oversupply of labour and intense competition."[1]

The economic policy of the Government—or shall we say the lack of it ?—has retarded the growth of modern industries. The indifference towards problems of health and education has contributed towards this retardation. Subjection involves a moral degradation, the loss of initiative and enterprise and the presence of an inferiority complex, all of which have a direct bearing upon industrial efficiency.

[1] Op. cit. p. 386.

Industrial efficiency in any country is not easy to achieve, much less easy in a country like India in which millions live on the verge of starvation, where the death rate and the birth rate are high, the average length of life less than half that of the Westerner and the opportunities for education both general and technical so few.

Freedom to plan the entire economic life in all its aspects alone will make it possible for India to develop her natural resources with the help of labour that can compare in efficiency with labour in other countries. The problem of efficiency is not a question merely of getting more output from labour. For as Marshall observed, whereas in the case of the non-human factors of production our objective is minimum cost, here, in the case of labour, the objective is not only a higher standard of life for the labourer, but the creation of an environment in which labour feels that it can co-operate on a footing of equality with the owners of capital, and has, therefore, a voice in the shaping of industrial policy.

CHAPTER XXIV

FISCAL POLICY

Government in Relation to Industries

The traditions of *laissez-faire*, to which Great Britain was committed were brought to bear upon the attitude of the Government of India towards industries from 1857, when the Crown took over the responsibilities of governing India from the East India Company. In earlier days, Indian industries had always expected and received support from the rulers of the land. The bulk of Indian educated opinion was convinced from the beginning of the present century that industrialisation was a necessity for India, and that the Government should actively assist this process by legislation. Sir Alfred Chatterton in the Madras Presidency was the first to start with Government support an aluminium industry. This was followed by the introduction of chrome-tanning which led to the establishment of a vigorous industry. In 1905, a separate Department of Commerce and Industry was created in the Government of India. In 1908, a Director of Industries was appointed in Madras. There was a prospect of other provincial Governments following in the wake of Madras, which was, however, checked by an unexpected pronouncement in 1910 by Lord Morley. In a despatch to the Government of India, (July, 29th, 1910) refusing to approve of the creation of a Department of Industries in Madras, he wrote, " The policy which I am prepared to sanction

is that the State funds may be expended upon familiarising the people with such methods of production as modern science and the practice of European countries can suggest ; further than this the State should not go, and it must be left to private enterprise to demonstrate that these improvements can be adopted with commercial advantage . . . my objections do not extend to the establishment of a bureau of Industrial Information or to the dissemination from such a centre of intelligence and advice regarding new industries, processes or appliances, provided that nothing is done calculated to interfere with private enterprise." These orders resulted in the abolition of the Department of Industries in Madras.

A strong protest was lodged by the Indian Industrial Congress. In 1911, the Madras Legislative Council adopted a resolution inviting the Secretary of State to reconsider his decision, and the proposals of the Local Government were supported by the Government of India. The Department of Industries in Madras was reconstituted in 1914. In other provinces, similar spade work on new processes in various industries was undertaken when the war broke out, closing European markets for raw material, and resulting in the contraction of commerce with the West. The war compelled the Government to abandon its *laissez-faire* attitude, and to develop a number of industries with State assistance and under State management. Summing up the position before the outbreak of the War, the Industrial Commission observed : " This account of the efforts made by Government for the improvement shows how little has been achieved owing to the lack of a definite and accepted policy, and to the absence of an appropriate organisation of specialised experts. Such experience as has been gained in the few attempts which have been made by the Imperial and Local Governments is chiefly of a negative character ; much valuable time has been lost, during which substantial advances have been registered and the outbreak of war, which should have proved an opportunity to reap the fruits of progress, has served mainly to reveal and accentuate startling deficiencies."[1]

The Indian Industrial Commission was appointed in 1916 with Sir Thomas Holland as President to report upon the possibilities of further industrial development in India. But their activities were limited by the proviso that their recommendations should not be incompatible with the existing fiscal policy of the Government of India. The Commission presented their final report in 1918. Their recommendations involved two fundamental principles : (1) that in future Government should play an active part in the industrial development of the country, and (2) that

[1] Report, p. 82.

Government cannot undertake this work unless it was provided with adequate administrative equipment and with reliable scientific and technical advice. The main activities of Government were to include research, industrial and technical education, commercial intelligence, direct assistance both technical and financial, and the purchase of stores. They suggested the establishment of an Imperial Department of Industries administered by a member of the Viceroy's Executive Council.

"It is", the Commission observed, "a most important duty of the Government of India to provide the machinery required to ensure that uniform development that alone will make the country self-contained, both economically, and for purposes of defence. From this point of view, India's most prominent present deficiencies are the absence of provision for the smelting of metals and consequent production of alloys, the manufacture of chemicals and the utilisation of the by-products of destructive distillation of coal and wood, the manufacture of rubber, now exported in a raw state, the preparation of food-stuffs for transport, the production of the better qualities of leather and the utilisation of the natural wealth of the forests for the recovery of drugs, essentials oils and dyes. In addition to the production of these essential materials, the organisation on a large scale is also necessary of manufacturing operations for the production of articles, many of which will probably not be undertaken in the near future without some form of Government guarantee or support. This applies especially to the manufacture of electrical machinery and certain special forms of mechanical plant, such as internal combustion agencies, machine-tools and heavy steel forgings. In most of these enterprises, it is obvious that only Government can be expected to give an effectual lead."[1]

Critics of the Industrial Commission have remarked that the appointment of the Commission was a time-serving proposition. Apart from the exclusion of the fiscal issue in the terms of reference, the actual development of events might appear to lend support to such a criticism. No action was taken on the recommendations of the Commission. After 1918, the few industries which had been established, due to the falling off in imports from abroad, and to the needs of military equipment, either stagnated or decayed. It was difficult for them to face the competition in peace times of other advanced industrialised countries.

In the mean time, the British Government in virtue of the promises held out to India in 1917, had committed itself to a policy of decentralisation. Industry became a provincial subject under the Reforms Act of

[1] Report, p. 233.

1919. The responsibility for industrial development devolved upon the provinces with their limited financial resources and still more limited technical equipment.

That the recommendations of the Industrial Commission were frustrated by the Reforms Act of 1919 is acknowledged even by A. G. Clow who claims to give us an objective statement of the history of the relations between the State and Industry in India under the Reforms Constitution. "The general result was a separation of the spheres of influence of the Central and Local Governments in respect of the development of industries." "The Government of India," he continues, "were also able to exercise some influence on the development of industries by means of their purchasing activity. In all other directions, their power to advance the industrial progress of the country was restricted. Local Governments, on the other hand, were unable to adopt protective policies. In other directions, the powers which they could exercise were in theory at least almost unlimited. But they had to face serious financial difficulties, and the two features which the Industrial Commission had regarded as the chief obstacle to progress, namely, the lack of a definite and accepted policy and the absence of an appropriate organisation of specialised experts, remained after the reforms."[1] There can be no more convincing evidence of the fact that the recommendations of the Industrial Commission were torpedoed by the Reforms Act of 1919 than this "objective" statement in an official publication with the "general approval" of the Government of India.

Fiscal Policy: Early History

In the early days, the East India Company was interested in improving those Indian industries from which its export trade was largely drawn. The company looked with favour upon the manufactures of cotton and silk piece goods, although such a policy met with opposition from vested interests in England. These were "at one time sufficiently powerful to insist that the Company should concentrate on the export from India of the raw material necessary for manufacturers in England."[2] During the 19th Century, *laissez-faire* views gradually gained ground both in England and in India. The East India Company working in co-operation with English industrial interests used the tariff in a manner harmful to Indian cottage industries. The duties on raw produce were at the rate of 3½ per cent, while those on manufactured articles ranged upto 5 per cent. After the repeal of the Corn Laws in 1846 in England,

[1] A. G. Clow, "The State and Industry," 1928, pp. 24-5.
[2] Industrial Commission Report, para 105.

a new policy of free trade was foisted on the British Dominions overseas. What was good for England was assumed to be good for her colonies and dominions ; and the very country, which had imposed high import duties on articles like cotton and silk goods from India, now preached the gospel of free trade. When the Crown took over the administration of India from the Company, budgetary difficulties compelled increase in import and export duties in spite of the free trade slogan. In 1859, the general rate of import duties was raised from 5 to 10 per cent and the duty on cotton yarn from 3½ to 5 per cent. In 1874, the Manchester Chamber of Commerce in a memorial to the Secretary of State stated that, under the 3½ per cent duty on cotton goods, a protected cotton manufacturing industry was springing up in India, and further that " a large number of new mills are now being projected and the revenue from import duties will be consequently diminished." A Committee appointed in 1874 by the Government of India rejected the demand for repeal of the cotton duties. The Secretary of State not satisfied with the result of the enquiry asked for explanation why changes were not submitted for his approval first, and observed that " Parliament will not allow the only remnant within the direct jurisdiction of the English Government to levy protective duty hostile to English manufactures." " Whether the question, be regarded as it affects the consumer, the producer or the revenue, I am of the opinion that the interests of India imperatively require the timely removal of a tax which is at once wrong in principle, injurious in its practical effects and self-destructive in its operation."

In 1879, Parliament passed a resolution recommending the removal of duties on cotton in India. The Finance Member, Sir John Strachey, in his financial statement observed that, while he felt as strongly as any man the duties which he owed to India, there was no higher duty than that which he owed to his country, but at the same time, cotton goods were the sole articles of foreign production which people consumed in India, and there was no possibility of deriving a large customs revenue from anything else. In 1878, in spite of budgetary difficulties Government, in the teeth of considerable opposition, carried the Finance Bill exempting coarser cotton goods from duty by certification by the Viceroy. In 1894, with the fall in the sterling value of the rupee, fresh taxation was necessary and the Government proposed a general tariff of 5 per cent on all imports. The Secretary of State removed cotton yarn and cotton piece goods from the list, and subsequently agreed to the inclusion of cotton goods on condition that a countervailing excise duty was imposed on cotton goods manufactured in India. Accordingly in 1895, the 5 per cent import duty on cotton piece goods and cotton yarn was supplemented by a 3½ per

cent excise duty in India. The Finance Member had to admit that only about 6 per cent of the Indian manufactures entered into competition with Manchester goods, and that in spite of his convictions he had to obey orders imposed from above.

When the question of Imperial Preference was raised for the first time in the early years of the 20th century, the Government of India turned down the proposals. With the outbreak of the War in 1914, the tariff rate was raised from 5 to 7½ per cent, the duty on imported cotton goods being included in the list. But the excise duty was left untouched in spite of agitation from Lancashire. Even the London *Times* commenting on this agitation had to observe : "The Indian cotton excise duty has always been politically, economically and above all morally indefensible. Opposition to it unites every class in India, from the official members of the Government to all members of the Indian community. It has made a grave breach in the moral basis of the British control of India."[1] In 1921, with a huge deficit facing the country, a special duty of 20 per cent *ad valorem* was imposed on motor cars, silks, etc. and the general *ad valorem* duties were raised at first to 11 per cent. and sebsequently to 15 per cent. But no change was made in the cotton duties, as the legislature would not have agreed to an increase in the countervailing excise duty.

Generally, it may thus be observed that the fiscal policy of the Government of India remained based upon Free Trade principles down to 1923. If higher levels in tariff rates were adopted, they were adopted for purely revenue purposes. This may be indicated by the following table :—[2]

Customs Revenue during 1909-1922
(In lakhs of rupees)

Year	Import duties	Export duties	Total customs	Total revenue	Percentage of customs to revenue
1909-14 (average)	7,99	15,30	9,24	66,70	13.9
1914-15	8,07	83	8,90	62,86	14.1
1919-20	15,43	4,81	20,24	117,37	17.2
1920-21	23,15	4,84	27,99	116,80	23.9
1921-22	27,64	4,50	32,14	113,15	24.4

The Fiscal Autonomy Convention

The war of 1914 had brought about the establishment of a few

[1] London *Times*, March 5th, 1917, quoted by C. N. Vakil in "Industrial Policy of India," p. 43.
[2] Adarkar, "The Indian Fiscal Policy," 1941, p. 422.

industries and had aroused public interest in the possibilities of protection. The Industrial Commission had stressed the necessity for industrialisation in India. The Commission was expressly excluded from discussing questions of fiscal policy, but it pleaded for a more active part in the industrial development of the country on the side of the future Government. In 1921, the Secretary of State in a despatch to the Government of India accepted the principle underlying the Fiscal Autonomy Convention, which had been recommended in 1919 by a Joint Select Committee of both the Houses of Parliament. The Select Committee observed, " Whatever be the right fiscal policy for India, it is quite clear that she should have the same liberty to consider her interests as Great Britain, Australia, New Zealand, Canada and South Africa. In the opinion of the Committee, therefore, the Secretary of State should as far as possible avoid interference on this subject, when the Government of India and its legislature are in agreement, and they think that his intervention, when it does take place, should be limited to safeguarding the international obligations of the Empire, or any fiscal arrangement within the Empire, to which His Majesty's Government is a party."

The Fiscal Commission

In 1921, a Fiscal Commission was appointed to examine the tariff policy of the Government of India with Sir Ibrahim Rahimtoola as president. The Majority Report recommended a policy of ' discriminating ' protection of a halting character for a country like India with the potentialities hitherto smothered for an all round industrial development. There can be no doubt that the term discriminating was intended to give a semblance of respectability to the recommendations of the Commission. for no one desires an indiscriminate tariff policy for this country. The use of the term was an indication of a half-hearted compromise on the part of men afraid, perhaps, of being charged with revolutionary proposals in a field, where free trade had been accepted by economic orthodoxy as a sound principle. The formula adopted by the Fiscal Commission laid down the general conditions to be satisfied by an industry before protection could be granted. (1) The industry must be one possessing natural advantage, *such as* an abundant supply of raw material, cheap power, a sufficient supply of labour *or* a large home market. Such advantages will be of different relative importance in different industries, but they should all be weighed . . . no industry which does not possess some comparative advantages will be able to compete with them (successful industries of the world) on equal terms, and, therefore, the natural advantages possessed by an Indian industry should be analysed carefully,

in order to ensure as far as possible that no industry is protected which will become a permanent burden on the community. (2) The industry must be one which without the help of protection either is not likely to develop at all or is not likely to develop so rapidly as is desirable in the interests of the country . . . The main object of protection is either to develop industries which otherwise would not be developed or to develop them with greater rapidity. (3) The industry must be one which will be able to face world competition without protection. . . . The protection we contemplate is a temporary protection to be given to industries which will eventually be able to stand alone. An industry in which the advantages of the large-scale production can be achieved, i.e. in which increasing output would mean increasing economy of production is, other things being equal, a particularly favourable subject for protection. Another class of industry which should be regarded with a favourable eye is that, in which there is a probability that in course of time the whole needs of the country could be supplied by the home production.[1]

The Minority Report signed by the President and four others stated that their reasons for writing a dissenting minute were : (a) "The main recommendation has been hedged in by conditions and provisos which are calculated to impair its utility. (b) In places the language is half-hearted and apologetic. (c) We are unable to agree with the views of our colleagues on Excise, Foreign Capital, Imperial Preference, and the constitution of the Tariff Board."

The main criticism that can be offered about the three conditions on which discriminating protection was to be granted is that the Commission failed to take a proper view of the industrial problem of the country as a whole. An industry which applies for protection must show that it is one possessing natural advantages. Does this mean that it must possess all such advantages ? Obviously this could not be the interpretation. The enumeration of the advantages was only illustrative. Otherwise the words "such as" and "or" could not have been introduced. The Commission further said in laying down the first condition "no industry which does not possess *some* comparative advantages will be able to compete with them on equal terms," lest such a protected industry becomes a permanent burden on the community. Not even in highly industrialised countries can any industry fulfil all these conditions. Most of them have to rely to a greater or less extent upon the imports of raw materials and upon foreign markets. Moreover, no country in the world has been able to develop its industries without the advantage of an

[1] Fiscal Commission Report, pp. 45 *et seq.*

early momentum, or a protective policy. Quite apart from protection, the Governments of civilised countries have fostered their industries by shipping facilities, by the grant of bounties, by favourable railway rates, by industrial research, and even by active control and guidance of industrial enterprises. Never in the history of any country has protection been granted in such a half-hearted, halting, reluctant manner as in India, a country ailing from all the ills of an unbalanced economy predominantly dependent on agriculture, and possessing immense potentialities for industrialisation.

It has also been pointed out that if an industry fulfils the requirements of the first condition, that is, if it possesses full natural advantages, it is impossible for it to fulfil the second condition at the same time. For, in that case, the industry does not need any protection from the very beginning. An industry must have been in existence, and must show that it could not make headway without protection.

The Majority Report observed in conclusion, in a most apologetic manner that the industrial development of India would not take place at the expense of British interests. "India," they observed, "for many years to come is likely to concentrate on the simpler forms of manufactured goods and these are precisely those in which the United Kingdom has the smallest interest. Growing prosperity will bring a wider range of needs and these will be translated into a more extensive demand for British goods."[1] The Minority were more frank when they stated, "We believe that the industrial backwardness of India is in no way due to inherent defects among the people of India, but that it was artificially created by a continuous process of stifling, by means of a forced tariff policy, the inborn industrial genius of the people."[2]

The Tariff Board

Following upon the Report of the Fiscal Commission, a resolution was adopted by the Legislative Assembly in 1923 recommending to the Governor-General in Council among other things "that in order that effect may be given to these recommendations (of the Fiscal Commission) a Tariff Board should be constituted for a period not exceeding one year in the first instance, that such Tariff Board should be an investigating and advisory body and should consist of not more than three members, one of whom should be a Government official; but with powers to co-opt other members for particular inquiries." The Tariff Board usually consists of a President and one or two members. The tenure

[1] Fiscal Commission Report, p. 148.
[2] *Ibid.*, p. 180

of office varies from a few months to as much as eight years. As the appointments are made by the executive which is not responsible to the legislature, one can well realise the difficulties of an impartial outlook on the part of a board constituted in this manner. The Fiscal Commission had suggested the establishment of a permanent board, with a view to securing a continuity of policy. The actual practice of appointing different boards at different times makes for inefficiency, as every new member would take considerable time to familiarise himself with the intricacies of tariff procedure. Such a practice is likely to hamper quick decisions. There is no permanent machinery of the board to keep a continuous record of statistical and other information. The delay involved in gathering such information, entails enormous losses to the industries concerned. The procedure adopted in the working of the Tariff Board is also significant. In the first place, there has to be an elaborate application by the industry concerned to the Commerce Department ; if the Commerce Department is satisfied that a *prima facie* case has been made out, the application goes to the Tariff Board. In the next place, the Board issues a communique inviting representations from industrialists and also a questionnaire. The Board visits factories, collects relevant data and records written statements in addition to oral evidence. Thirdly, the report of the Board is submitted to the Commerce Department that has to decide whether any and how much protection should be granted. Fourthly, the proposals are embodied in a Bill for the consideration of the legislature. As such a bill is a money bill, the legislature has no right to increase the rates of duties proposed. Fifthly, the Governor-General can exercise his power of veto if he so chooses. There cannot be a more effective method of delaying and stifling any proposals for protection which involve a conflict of interests between Britain and India.

The Case for Protection

The main argument of the classical economists in favour of free trade is the theory of international values based on comparative costs and geographical division of labour. Trade unhampered by restrictions is mutually beneficial both as between individuals and classes within any single nation, and as between one nation and another. Those, however, who unquestioningly accept the free trade principle forget certain historical facts which have determined the evolution of this principle. Economic theory in England is an analytical study of its mechanism of economic life. If England has adopted a free trade policy from the early years of the last century, abandoning mercantilism which is another form

of protection. it was the result of the historical accident that the industrial revolution first started in that country in the field of textile and engineering industries at a time, when she had a large market not only in her own dependencies but in the industrially backward countries of the world. Classical economic thought in England reflected economic practice and was dominated by the assumption that a principle which favoured the growth of economic life in England would equally favour the development of other countries.

As a matter of fact Germany and the U.S.A. revolted against the dogma of free trade and built up a highly industrialised organisation by a policy of protection. The infant industry argument, or, as it was sometimes called, the infant country argument, which found expression in the writings of List and Carey, was incorporated by later English economists like Mill and Pigou as a permissible exception to the free trade principle.

In the second place, after the end of the last war the world as a whole has definitely abandoned the free trade policy and almost every country has been urged by a desire for economic self-sufficiency to put up trade restrictions and tariffs, destroying the last vestiges of free international trade. Instead trade has been carried on by unilateral or bilateral agreements. Even Great Britain abandoned her free trade policy in favour of a scheme of preferences within the Empire, which meant a protective policy against the rest of the world.

Moreover, when it is asserted that free trade between one nation and another is mutually beneficial, there is an assumption that the nations do trade freely on a footing of equality, that neither political dependence of one country upon another nor the accidents of historical evolution exist to defeat the free flow of surplus goods. Schmoller expressed the difficulties about free trade in very clear terms when he observed : "The free traders forget that unrestricted free trade between all countries brings about increasing sales and rising prosperity for the countries favoured by Nature and historic development but, in the case of those neglected by Nature, it may easily rob them of their industries or even in certain circumstances, of their population. No people with a national consciousness can permit that without defending itself. The consolation that free trade is effecting a cheaper and better production somewhere else in the world cannot satisfy the countries thus injured."[1]

It is a historical fact that in the early days of the Company, India had a comparatively balanced economic life exporting only its surplus luxury goods which lured the commercial interests of Great Britain. In the

[1] Quoted by Adarkar, op. cit. p. 6.

course of the 19th century this economic balance was lost. The disappearance of cottage industries due to the influx of cheap machine-made goods resulted in the loss of its occupational equilibrium, compelling the country to fall back on an already overtaxed agricultural production with a resultant diminution in wealth. Under these circumstances, the free exchange of raw materials for finished goods, however much it may have benefited Great Britain, could never be said to have benefited India. If free trade between India and Great Britain has brought about an increasing ruralisation in the country with an increasing population of unemployed or half-employed labourers on land, it is little comfort to be assured that the consumers in India have benefited by cheaper imports.

The only sound basis on which India can demand protection is the claim for economic self-sufficiency. If Great Britain can claim and aspire to economic self-sufficiency within the Empire, such a policy might be beneficial to the self-governing dominions but not necessarily to a dependency. Economic dependence in the shape of a one-sided exchange of raw materials for finished goods may not be desirable from the point of view of one of the parties to the exchange. "International commerce between nations that are equal in status, enjoy equal opportunities making free contracts, that exchange not raw materials for finished goods," but genuine surpluses which involve no sacrifice for consumers "is alone beneficial to humanity; such commerce redounds to the mutual benefit of both parties to the exchange. But a one-sided trade relation in which a dependent country year after year parts with its very life-blood in the shape of food and raw materials to another country that gives its tawdry manufactures in exchange is the simplest type of economic exploitation, the obviousness of which escapes notice only by the magnitude of the scale on which it is carried on."[1]

Protection at its best is the assertion of the principle that the function of the State is not confined to securing peace and order but extends far beyond to the ordering and regulation of the material conditions for the growth of a commercial life. It is based on the idea that every social group calling itself a nation shall employ its organised efforts for securing the conditions of a full life for its members. If during days of war India is called upon to devote all its resources to the multiplication of the arms and equipment necessary for waging war, we might well insist that in times of peace all our resources should be utilised for the promotion of

[1] P. A. Wadia, "The True Basis of Protection for India" in *Economic Journal*, June, 1924.

our well-being, not only by tariffs but by the fostering of technical education, by the organisation of pioneer industries, by granting of loans and credit facilities, and in the last resort by socialising all industries connected with our national welfare by legislative control, if not by direct management. We must also remember that ultimately the problem of our industries is insoluble except on a plan of international co-ordination of tariff and currency policies. Whatever the United Kingdom and the U.S.A. may say, it is not possible for relatively backward countries to sacrifice tariff autonomy in the interests of so-called "international co-operation."

Discriminating Protection at Work: (a) Iron and Steel Industry

Following the resolution of the Legislative Assembly in 1923, the first industry to apply for protection was the Iron and Steel industry. After the end of the last war, this industry had to meet the competition of foreign producers. There was dumping by foreign producers that had serious consequences for the Indian industry. The Tariff Board of 1924 found that the industry satisfied all the three conditions laid down by the Fiscal Commission and that it was also entitled to protection as a basic industry. In their report, the Board observed that the amount of protection to be given was measured by the difference between the price at which steel was imported into the country and the price at which the Indian manufacturer could sell at a reasonable profit. The difference between the two prices would indicate the height of protection necessary and specific duties were recommended on different kinds of rolled steel ranging from 30 to 45 rupees per ton and also duties on wrought iron, railway wagons, tin-plates, wire and wire-nails and agricultural implements. When it was found that these duties were not a sufficient protection against dumping, further increase in duties was urged by the Board. Though the Government recognised the need for protection, they preferred the grant of bounties not exceeding Rs. 50 lakhs in any year. Accordingly, bounties at the rate of Rs. 20 per ton on 70 per cent of the weight of the steel ingots produced, subject to a maximum of Rs. 50 lakhs, were paid during 1924-25. The Finance Member gave as a reason for preferring bounties to import duties the excessive burden on consumers of steel which additional import duties would involve. In 1925, the Board was again asked to examine the question of protection, and they recommended a bounty of Rs. 18 per ton for a period of eighteen months ending March, 1927, subject to a maximum of Rs. 90 lakhs. The Government, whilst they accepted the finding of the Board that further assitance was necessary, reduced the bounty from Rs. 18 to Rs. 12 per ton, and the maximum amount

from Rs. 90 lakhs to 60. As the result of protection, the production of finished steel increased by leaps and bounds.

In 1927, the Tariff Board advocated for the first time what was inconsistent with the principle of discriminating protection, namely, preferential treatment of British as against non-British steel. The Board assumed that British prices were stable, that British steel was synonymous with standard and tested steel, that a system of uniform duties would involve an increase in the cost of railway bridges, irrigation schemes and industrial works, and recommended differential duties, as below :—

	Basic duty on all steel (Rupees per ton)	Additional duty on non-British steel (Rupees per ton)
Rails	13	—
Fish Plates	6 (revenue duty)	—
Galvanised Sheets	38	—
Sleepers	10	—
Structurals	19	11
Bars	26	11
Plates	20	16
Black Sheets	35	24

While the basic duty was based on the difference between British and Indian prices, the additional duty was levied upon non-British steel. It has been said that these differential duties were instrumental in delaying the rapid development of the Indian industry by giving a preference to the British producers.

The next phase in the history of the iron and steel industry was the Ottawa Trade Agreement of 1932 by which the import duty on galvanised sheets imported from non-British countries was fixed at Rs. 83 per ton, while that on sheets imported from Great Britain was reduced to Rs. 53 per ton, if the sheets were made of non-Indian steel, and Rs. 30 if made of Indian steel. British manufacturers were to use Indian steel as far as possible. India also retained the right of free entry for Indian pig iron and steel. It was a curious method of applying the principle of discriminating protection to send the raw material abroad to be finished into the final product. The Tariff Board of 1933 declared : "The renewal of the Agreement in its present form will be impracticable." They noted with satisfaction the progress made by the industry, in capturing 72 per cent of the Indian market, in reducing works cost, and in modernising its plant. They recommended the imposition of excise for replacing the customs revenue lost to the Government by reason of the policy of

protection. The Government preferred equalising duties to the removal of the revenue duties on the imports and levied an excise duty of Rs. 4 per ton on steel ingots produced in India and countervailing duties on imports. Whilst the duties on non-British steel range from Rs. 25 to Rs. 43 per ton, they are only 10 per cent *ad valorem* on British steel.

Elsewhere, we have given details of the growth of iron and steel industry. It may be said that the iron and steel industry has developed to the present position in spite of many difficulties and the half-hearted nature of protection given to it ; and it is a matter of great satisfaction that it has come upto the most stringent test of the protection policy, namely, the removal of duties or at least substantial reduction. It has fully justified the policy of protection.

(b) Cotton Textile Industry

We have given elsewhere a brief history of the development of the textile industry. The growth of the industry in India led the Lancashire interests in England to agitate for the exemption of British goods from the import duty on yarn and cloth. This exemption was secured in 1878. The difficulties this exemption created in the development of the Indian textile industry were accentuated by the closure of the mints to the free coinage of silver in 1893, which resulted in the loss of exports to China and Japan with falling exchange. When import duties were reimposed in 1894 for revenue purpose, Lancashire interests were again instrumental in the levy of an excise duty in India on cloth manufactured in India as a countervailing measure. This excise duty remained a patent illustration of the domination of Lancashire interests in Indian financial policy till it was abolished in 1926. The Swadeshi Movement in 1905 gave a considerable impetus to the Indian cotton industry, though later adverse conditions involved a hard struggle till 1914, when the war created exceptional opportunities for the growth of the industry.

The boom created by the war was followed by a period of depression aggravated by competition from Japan. The excise duty was abolished in 1926, and a special Tariff Board was appointed to enquire into the causes of the depression, and the necessity of protection. The Board found that the difficulties of the industry were largely due to the unfair advantage enjoyed by Japan through double shifts and the employment of women and children at night. The Board was unanimous that the industry had established a claim for protection against imports from Japan, and a majority of the Board proposed an increase in the import duty in cotton piecegoods from 11 to 15 per cent for three years and no increase in the duty on yarn. The majority also recommended a bounty

on the spinning of higher counts of yarn. The Government rejected the proposal for a bounty and stated that the existing 11 per cent revenue duty already covered the disadvantage due to labour conditions in Japan. They decided to levy a duty of 1½ annas per pound on all imported yarn for a period of three years, extended subsequently to three more years. Inadequacy of this protection was evidenced by increasing imports of piecegoods from Japan in the years that followed. The Tariff Board, though aware, ignored the handicap to the Indian industry arising from the depreciation of the yen and the appreciation of the rupee ; and it was not till 1929 that the Government of India appointed Mr. G. S. Hardy to investigate into the changes that had taken place since 1927. On Mr. Hardy's report, the revenue duty on piecegoods was raised from 11 to 15 per cent in the case of British cotton piecegoods and 20 per cent in the case of foreign goods, with an alternative minimum specific duty in either case of 3½ annas per pound on plain grey goods. For purely revenue reasons, the rate of duties was brought upto 25 per cent and 31¼ per cent on foreign imports. At the same time, an import duty of 6 pies per pound on raw cotton and 10 per cent on machineries and dyes used by the industry was also levied.

In 1932, the Tariff Board was again asked to enquire into the question of the grant of substantive protection to the industry. The depression which began in 1929 affected the cultivators who were the principal consumers of cotton goods. This led to deficits in the budget and higher duties as a consequence. The Tariff Board found that the depreciation of the Japanese yen since 1932 had led to a remarkable increase in the imports of piecegoods. They, therefore, recommended that the duty on all piecegoods not of British manufacture be raised from 31¼ to 50 per cent *ad valorem*, the minimum specific duty on plain grey goods being raised at the same time to 5¼ annas per pound. By the time the new duty of 50 per cent came into force, the yen depreciated still further, and in June 1933 the non-British *ad valorem* duty was raised from 50 to 75 per cent and the specific duty from 5¼ annas to 6½ annas per pound. At the same time, notice was given of Government's intention to abrogate the Indo-Japanese trade convention of 1904.

This was followed by the arrival of an official delegation from Japan and the conclusion of a new agreement by which the duties were brought down to 50 per cent,, with the specific duty of 5½ annas per pound. Japan also agreed to take one million bales of Indian raw cotton in return for the right to export 325 million yards of cotton piecegoods to India with a maximum limit of 400 million yards.

The Tariff Board Enquiry of 1932 considered how far the claim of the Indian industry to protection was established—in other words, how far it satisfied the conditions laid down by the Indian Fiscal Commission. The Board recognised that the claim to a "substantive protection" was established. The Board observed that as regards the first condition of the Fiscal Commission's formula, India had a virtual monopoly of short staple cotton, and that absence of long staple cotton was no bar to protection. With regard to mill stores like china clay, magnesium chloride, starch etc., they pointed out that most of these were now being produced in India, as also a large portion of textile machinery and tools. The existence of the cotton industry was of great importance for the development of these subsidiary industries. The domestic market was so enormous that in spite of reductions in imports India was still the biggest single market for Japan and the United Kingdom. As regards labour costs, the Board stated that the lower costs in Japan arose not only from low wages paid there, but also from the double shift system.

In regard to the second condition of the Fiscal Commission that the industry is "not likely to develop at all, or is not likely to develop so rapidly as is desirable in the interests of the country," the Board was of opinion that if, on the basis of costs, the Indian industry is "unable to meet foreign competition unaided, the second condition is substantially satisfied."[1] The Board examined the figures of costs, profits, prices, etc. and was satisfied that the industry, as a whole, was not able to meet foreign competition.

The Board laid stress on the ground that the cotton textile industry represented "important national interests." The industry absorbed 600,000 workers, with twice as many dependants, in addition to between 3 and 10 million people dependent on the hand-loom industry. An enormous amount of capital was invested in the cotton industry by Indians, and the industry provided an assured market for Indian cotton.

The Board accordingly favoured "substantive" protection to the cotton industry, and stated that the need for protection against the United Kingdom imports was as great as for that against Japan. The Act of 1934 sought to give effect to the recommendations of the Tariff Board in the light of the Indo-Japanese Protocol and the unofficial agreement between Indian and Lancashire millowners, known as the Mody-Lees Pact. The Act fixed the rates of duties on yarn at 5 per cent British and 6¼ per cent non-British yarn. In the case of piecegoods, the duties were fixed at 25 per cent and 50 per cent on British and non-British goods

[1] Report, p. 116.

respectively, with a minimum specific duty of 4⅞ annas and 5¼ annas per pound on plain grey goods. The Act guaranteed protection for a period of five years ending March, 1939, but recognised the need for re-examining the scale of duties on the expiry of the Mody-Lees Pact in 1935 and the Indo-Japanese Protocol in 1937. It may be stated that, while India incurred a loss of revenue as a result of the preferential treatment accorded to the United Kingdom amounting to a crore of rupees, the gain to the cotton export trade was hardly commensurate. The Lancashire industry depends for long staple cotton on the U.S.A. and Egypt and though attempts were made by way of propaganda in favour of Indian cotton, it is difficult to say to what extent any increase in exports of cotton from India to the United Kingdom could be ascribed to the Mody-Lees Pact.

The Mody-Lees Pact was due to expire by the end of 1935, and a special Tariff Board was appointed in September, 1935, to investigate the question of protection to the cotton industry against imports from the United Kingdom. The Board recommended that the duty on British plain grey goods be reduced from 25 per cent *ad valorem* to 20 per cent *ad valorem*, or 3½ annas per pound and that the duty on yarn should remain the same. The Government effected the reductions by a notification and faced the Legislature with a *fait accompli*. This was how fiscal autonomy in India worked in practice!

The Indo-Japanese trade protocol was subsequently renewed for a period of three years ending March, 1940 ; and a new trade agreement between the Government of India and His Majesty's Government in the United Kingdom replaced the Ottawa Agreement, and provided for a reduction of the basic rates of duties on British piecegoods as below :—

Printed goods	..	17½ per cent *ad valorem*	
Grey goods	..	15 „ „ „	or 2 as. 7½ pies per lb.
Others	..	15 „ „ „	

The basic rates were subject to a reduction of 2½ per cent, if imports from the United Kingdom in any year were less than 350 million yards, and to an increase to the same extent in the event of United Kingdom imports exceeding 500 million yards. After the outbreak of the war in 1939, as the imports of piecegoods from the United Kingdom did not exceed 350 million yards, the duties on British piecegoods were reduced by 2½ per cent from April, 1940. The war gave a golden opportunity to the Indian Cotton Textile Industry to capture the Indian market and establish itself on an unshakable footing. But it is tragic to note that

the greed for higher profits and the selfish mentality of war profiteering of our capitalists has led the industry to lose this chance of stabilising itself.

(c) Sugar Industry

The sugar industry applied for protection in 1930-31. The development of the industry was not only desirable in itself, but it was pleaded that it involved the creation of a commercial crop with a large internal market. The Tariff Board recommended protection on the ground that all the conditions of the triple formula were satisfied. They recommended a duty of Rs. 6-9 per cwt. for a period of 15 years as against a high revenue duty of Rs. 6 per cwt. which was previously levied on sugar imports. The Tariff Board pointed out that the extension of the area under sugar cane is a matter of national importance, that it was desirable, if a crisis in cultivation was to be avoided, due to over-production, that steps should be taken to ensure the increase of white sugar to some 4 to 5 hundred thousand tons and, therefore, that the protective duty should not only ensure the continuance of existing factories but the establishment of new ones.[1] It was also pointed out that the cane crop was a source of fodder for cattle and provided continuous employment to both men and cattle as it occupied the intervals between the rabi and kharif harvests. As a result of protection, the average output of cane sugar (factory produced) has risen considerably since the Tariff Board first reported, as shown by the following table :—[2]

Growth of Sugar Industry in India since 1931-32

	No. of factories	Quantity of cane crushed in tons	Quantity of factory produced sugar in tons	Average output per factory in tons
1931-32	32	1,783,000	158,500	4,955
1933-34	112	5,157,000	454,000	4,053
1935-36	137	9,801,000	932,100	6,802
1936-37	137	11,687,000	1,111,400	8,109
1938-39	140	10,250,000	950,000	6,786

India has thus become self-sufficient in sugar, and the annual imports which used to average Rs. 15 crores, have now stopped almost completely.

A second Sugar Tariff Board was appointed in 1937, but the report was shelved and published in March, 1939. They stressed the need of

[1] Tariff Board Report, pp. 39-41.
[2] Adarkar, op. cit. p. 227.

permission for the manufacture of power alcohol. The Tariff Board also suggested a marketing survey of the industry and the rationalisation of the industry under some form of State control. The Government in publishing the report, accompanied it with a resolution criticising the findings of the Board and introduced legislation fixing the amount of protection for two years 1939-41 at Rs. 8-12 per cwt. as compared with the previous import duty of Rs. 9-4.

An International Sugar Agreement was signed in 1937 by twenty-one sugar producing countries of the world including India. The Sugar Council determines from time to time the export quotas of the sugar exporting countries in relation to the "free market" of the world. Under the agreement, it is only the "free market" for which export quotas are alloted. The Government of India have signed the agreement on behalf of the Indian industry agreeing that India will not export sugar by sea to any of the free markets except Burma. Even in the British market there is no access for Indian sugar, although Australia and South Africa, which have no superior advantage in the production of sugar as compared to India, have this privilege accorded to them. What is worse, India is treated as a "free market", where any country can sell its sugar upto a maximum of 50,000 tons per year at any price. The Tariff Board observed in connection with this arrangement : "It appears to us somewhat anomalous that India should be debarred from exporting sugar and at the same time be a "free market" for imports when its internal production is already equal to its consumption."[1]

The policy with regard to the sugar industry as with regard to other industries has been a policy of drift. When the Tariff Board recommended in 1939 a protective duty of Rs. 7-4 per cwt. for a period of six years, the Government of India over-ruled the recommendation and restricted the protective duty to a period of two years ending 1941, which was extended upto 1944 and now to 1946. The sugar industry has more than fulfilled the expectations of the Tariff Board by its more or less complete elimination of foreign imports in a period of four years after protection was granted. The war, moreover, has not in any way favourably affected the position of the industry. A policy of drift is not calculated to promote the development of industries which possess even the most favourable conditions for rapid growth.

(d) Paper and Paper Pulp Industry

The industry applied for protection in 1924. When the Board inquired into the condition of the industry it was estimated that the full

[1] Tariff Board Report, 1939, p. 80.

annual capacity was 33,000 tons. The Board observed that out of a total consumption of 100,000 tons the market open to Indian paper would be 50,000 tons in addition to existing consumption. The Board was of the opinion that the Indian market was not large enough to support any great development of the industry.

India can produce only printing and writing paper. It has been impossible so far to produce newsprint at a low cost. The Tariff Board excluded newsprint from their proposals, and suggested that the duties which they proposed should apply to paper containing less than 65 per cent mechanised wood pulp. They observed that in the production of printing and writing paper there was a great future for the bamboo paper pulp industry. The Board also pointed out that there was only a small demand for paper made of sabai grass and that there was no case for the protection of such paper. The Board recommended that a uniform specific duty of one anna per lb. should be imposed on all writing paper and printing paper for 5 years in the first instance. The Board also recommended a loan or guarantee of a public issue of debentures of Rs. 10,00,000 to the India Paper Pulp Co. at Naihati to enable them to purchase more machinery to test the sulphite process on a commercial basis, and the grant of similar assistance to any mill which was prepared to test the soda process. The Government of India rejected the Board's recommendations for the grant of financial assistance on the ground that this meant singling out one mill for help when there were several competitors in the field. The *laissez-faire* policy of the Government stood in the way. In any other country, it would have been possible to make a grant conditional upon the company's readiness to transfer their patent rights to the Government. The proposals for protective duty were accepted and protection was granted for 7 years instead of 5 years recommended by the Tariff Board.

The Tariff Board examined the case of the industry for further protection in 1931. The manufacture of paper in India had increased from 27,000 tons in 1924-25 to 39,000 in 1930-31, and the share of the Indian mills in the consumption of paper of the protected varieties rose to 71 per cent. Improved methods of production had been adopted, and many of the mills were using imported wood pulp, a feature which the Board considered undesirable. The Board observed that increase in the use of foreign pulp and the neglect of bamboo pulp were to be partly attributed to the refusal of the Government to encourage the bamboo pulp section with financial help. The Board recommended the imposition of duty of Rs. 45 per ton on imported wood pulp and the renewal of the

specific duty of an anna per lb. on paper, both the duties to remain in force for a period of 7 years. The Government of India accepted the recommendations of the Tariff Board, but held the view that the definition of protected articles, namely, printing and writing paper should not be left to trade usage. The duties were to remain in force until March, 1939.

The Tariff Board in 1938 supported the claim for the continuation of protection on the grounds (1) that the results had justified protection. (2) that withdrawal of the protection would be disastrous to new mills. (3) that such withdrawal would prevent the completion of the experimental work on bamboo pulp. The Board recommended a protective duty on imported wood pulp of Rs. 35 per ton or 25 per cent *ad valorem* whichever is higher, and a duty on the protected classes of paper of 11 pies per lb. The period of protection was to be extended for 7 years from April, 1939. The Government of India, while accepting the recommendation for the continuance of protection, viewed the use of grass pulp with misgivings. The grass pulp industry had no claim to protection and they decided to impose an *ad valorem* duty of 25 per cent on imported pulp which would protect bamboo pulp at the lower prices but not grass pulp at the higher. The Government, moreover, reduced the protective duty to 9 pies per lb. and fixed the period of protection at 3 instead of 7 years. These decisions were given effect to by the Indian Tariff Act of 1939.

The capital invested in the industry is said to be over Rs. 4.39 crores. Three of the leading paper mills were able to earn as much as 50 per cent on their capital. The present war may have stimulated the industry but with a return to normal conditions, the prospects may not be so bright. Powerful paper interests from abroad will endeavour to recover their lost markets. It is necessary that Government should take a more active interest in the industry. India possesses a large variety of timbers yielding a decent quality of pulp. The Tariff Board in 1938 expressed dissatisfaction at the inadequacy of the grant (Rs. 25,000 only) to the Paper Pulp Section of the Dehra Dun Forest Research Institute. An unsympathetic railway freight policy has also greatly hindered development of Indian industries.

(c) Match Industry

The growth of the match industry in India dates from 1922, when a revenue duty was imposed on imported matches at so high a level (Re. 1-8 per gross of match boxes equivalent to more than 100 per cent *ad valorem*) that, it afforded substantial protection to the home industry. Under the protection afforded by the duty, a number of factories were started some of which used Indian wood and others wood imported from

abroad. Before the war of 1914, the Indian market for matches was supplied by Japan, Sweden and other countries. About half the total imports came from Japan. By 1918-19, imports from Japan into India totalled 10.74 million gross out of the total import of 11.11 million. In 1923-24, Japan appeared to be losing ground. Imports from Sweden rose to 5.15 million gross, while those from Japan were 5.55 million. During 1924-25, the Swedish Match Co. started its own match factories in India. When the case of the industry was referred to the Indian Tariff Board in 1926, they recommended a duty of Re. 1-8 per gross boxes ; thus in 1928 the revenue duty was converted into an import duty. In 1934, an excise duty was imposed on matches produced in India, and a countervailing import duty ranging from one rupee to Rs. 2 per gross of boxes. The domination of the Indian market by the Swedish Combine meant that Indian producers had to face competition from Sweden both externally as well as internally.

The growth of the match industry in India is the growth of a single manufacturing concern. It was the privilege of this country to institute the protection of an industry which helped not Indian interests but a foreign combine of world wide influence and power ! Subsequently the Western India Match Co. has been refloated as an Indian Limited Company with a rupee capital. The capital is, however, largely Swedish and the control entirely Swedish. It now owns 11 factories in India in addition to Indian factories which it controls indirectly. A rate war has been steadily ruining the Indian industry. The undercutting of prices leaves no margin of profit to Indian manufactures. Match boxes containing 60 sticks have been sold at Rs. 2-1 per gross. If the excise duty of Re. 1-8 is deducted, the actual difference will be found to be less than the normal cost of production. The Board estimated the fair selling price in 1928 at Re. 1-4 per gross.

It is significant that the Tariff Board did not recommend stringent measures to prevent the Swedish Trust from repeating its exploits in India as elsewhere. It has been alleged that rebates and discounts are offered by the Western India Match Co. to the dealers and vendors of matches, if they undertake not to sell matches manufactured by any other company. The Tariff Board observed : " We have seen advertisements of the Swedish Match Co. which in some cases explicitly, in others by implication, condemn the products of all Indian match factories without reserve. We must confess that it strikes us as curious that a foreign firm should repay the hospitality offered to it by India by belittling the quality of Indian manufacturers as a class or indeed that the Swedish Match Co.

considered that its interests were best served by methods of advertisement which could not but stir up animosity."[1] As a result of cut-throat competition in India nearly 30 Indian factories have had to close down.

During the last few years, Indian Match manufacturers as well as Indian Chambers of Commerce have persistently urged upon the Commerce Department the desirability of instituting an enquiry into the conditions of the match industry. But the Government of India has remained supremely indifferent to the complaint of the Indian match manufacturers. It is obvious that the Tariff Board could not devise a scheme for restricting the activities of a powerful foreign trust. This would have been beyond the terms of reference as well as the general powers of the Board. We can unhesitatingly endorse the statement that "the case of the match industry has become the true touchstone of the Government's sincerity in regard to their industrial and commercial policy."[2]

(f) Heavy Chemicals Industry

Among heavy chemicals are included sulphuric acid, hydrochloric acid, nitric acid and a few salts. On account of the heavy freight on acids their manufacture in India was carried on generally with profit. The Tariff Board enquiry in 1929 revealed that no production of chemicals other than these acids was carried on in India. The chemicals referred to the Tariff Board for examination included sulphuric, nitric and hydrochloric acids, magnesium sulphate, ferrous sulphate, potash alum, aluminium sulphate, sodium sulphide, zinc chloride, copper sulphate and Glauber's salt. Most of these are in use in industries including the textile, paper, glass and porcelain, soap and candle industries. The following table shows the importance of heavy chemicals to Indian economic life :—[3]

Imports of Chemicals and Chemical Products
(in lakhs of rupees)

	1913-14	1927-28	1937	1938	1939
Sodium compounds .	33	112	339	305	342
Other chemicals .	62	132	—	—	—
Explosives ..	16	27	57	26	23
Glass and glassware ..	194	248	150	130	109
Dyes	106	216	104	90	88
Soap	75	161	24	22	21
Fertilisers	9	42	71	103	120
Artificial silk . ..	—	549	527	232	369
Total ..	495	1,487	1,252	908	1,072

[1] Report, p. 85.
[2] Adarkar, op. cit. p. 296.
[3] *Ibid.*, p. 345.

It was the last war which saw the beginnings of the Indian chemical industry with the stoppage of foreign imports. The anxiety of the Government to develop the chemical industry in India was evidenced during the war period by the effort of the Indian Munitions Board and by the efforts of the Indian Industrial Commission. After the war the industry had to face the competition of two powerful foreign combines. There were further difficulties due to the rise in exchange from 1924. The claim of the industry for protection was, therefore, particularly strong. It was a key industry, the costs were high, and Indian concerns found it difficult to compete with the foreign combines. The heavy chemicals are the basis of the production of a large variety of commercial products. Without an extensive heavy chemical industry the complete utilisation of our resources was impossible. The Tariff Board recommended that the industry should increase the scale of production so as to reduce the cost per unit. Protection was to be in the form of specific duties amounting to the existing revenue duties. The Board also suggested a reduction in railway freights and recommended a system of bounties for manures on the ground that "the production of artificial fertilisers such as superphosphates and ammonium sulphate has a most important bearing on the development of Indian agriculture." In connection with railway freights, the Board had some interesting observations to offer. They observed, "We are referring to no new feature of railway administration, when we point out that the tendency of the railways to encourage traffic from and to the ports which has been brought under criticism on several occasions is still to be seen. We are informed for instance that the freight on some of the chemicals from Ambernath to the interior was higher than from Bombay to the same places though the distance from the latter was about 45 miles longer. We pointed out this to the Agent of the G.I.P. Railway and he assured us that if his attention had been drawn to this he would have equalised the freights from the two places. But equalisation of the freights does not, in our opinion, meet the objection that the indigenous industry is deprived of its geographical advantage, and the industry is to that extent given a preference. It is essential that considerations of railway finance should be subordinated to the interest of the country as a whole." They further added, "A railway is a public utility concern and its object must be to provide transport at the cheapest possible rate, so that both industries and agriculture may develop and so add to the prosperity of the country."[1]

The Board had recommended a moderate scheme of protection and

[1] Report of the Tariff Board on Heavy Chemicals, 1929, pp. 91 and 97.

suggested alternative measures like reduction of railway freights. It was under pressure from the legislature that Government reluctantly agreed to grant protection at the rates proposed by the Board for a period of two years only. With regard to the bounty on superphosphates, Government regarded it as unusual to subsidise an industry which had not yet come into existence, in spite of the fact that the manufacture of superphosphates is very valuable for agriculture. With regard to freight reductions, they considered such a proposal wrong in principle on the ground that "railway rates should be fixed purely on the basis of commercial principles and not with a view to subsidising industries."[1] One wonders whether the railway development is for increasing profits or for stimulating the economic development of the country by providing cheaper transport. The fixing of railway rates policy on a purely commercial basis disregarding all claims of industrial development of the country betrays a lukewarm, if not hostile, attitude towards the industrial development of the country.

When the Act affording protection expired in 1933, the duties were allowed to lapse without any valid reasons. When the scheme of Imperial Preference was introduced, the Imperial Chemicals, Ltd., were able to secure effective protection against their competitors abroad "while the growth of the Indian heavy chemical industry is stunted for ever."

(g) Glass Industry

The glass industry in India appears to have flourished from early days. But the industry in its modern form was organised only during the duration of the last war. During 1918, it was estimated that there were 20 factories at work. By the time of the Tariff Board enquiry in 1931, 59 factories had sprung up. The Tariff Board considered the case of the industry in the light of the triple formula. As regards the first condition, they stated that Indian sand of the best variety compared favourably with European and American sands, that borax was easily available, that supplies of limestone were also available anywhere in India at prices ranging from 1 anna 6 pies to 6 annas 6 pies per maund. For a majority of the materials used in glass manufacture, India was therefore well-placed. Difficulties arose only in respect of one important material, namely, soda ash, which is largely used in glass manufacture. The Government of India rejected the claim of the glass industry for protection on the ground that the industry had to rely on foreign imports for its supplies of soda ash and, therefore, failed to satisfy the first condition of the triple formula.

[1] B. N. Adarkar, "History of Indian Tariff," 1924-39. No. 2 of Studies in Indian Economics issued by the Office of the Economic Adviser, 1940, p. 63.

It is true that soda ash in a finished condition was not manufactured in India at the time of the Tariff Board enquiry. But deposits of sodium carbonate and sodium sulphate are to be found in abundance in different parts of the country. Between 1928 and 1931, the Sri Shakti Alkali Works at Dhrangadhra in Kathiawar produced substantial quantities of soda ash. The Tata Chemical Co. has also established a factory near Port Okha for the production of alkalis, fertilisers and other by-products. Thus, the soda ash problem arises not from the lack of any basic materials but from the non-existence of the alkali industry. The glass industry was thus made to wait pending the establishment of other industries.

It could also be pointed out that if only 100,000 cwt. of soda ash was used in glass manufacture in India, it would follow that the cost of soda ash would be about Rs. 10 lakhs. In other words, taking the total value of glassware made in India at Rs. 140 lakhs in 1929-30, the value of soda ash would be 7 per cent of the value of final products. Thus, the so-called disadvantage of the industry was in respect of a material, which plays a relative small part in the total cost.

The Indian market is one of the largest in the world so far as glass ware is concerned. The total consumption of glassware in India which was nearly Rs. 4 crores in 1929-30 must have increased both owing to the growth of population and commercial and constructional use of glass. Thus the Tariff Board was right in contending that the first condition of the triple formula in regard to raw material, labour and a large internal market was amply satisfied. The need for protection, however, was the greater in the case of this industry because it was an infant industry, and also because of unfair competition. Protection was asked for in connection with sheet glass, blown ware, pressed ware, including glass tiles, dishes, etc. and bangles, beads and false pearls. The Board was of the opinion that in every branch the industry would be able to dispense with protection within a reasonable period. Accordingly, it proposed : (1) a protective duty on sheet and plate glass of Rs. 4 per 100 sq. ft. or 25 per cent *ad valorem*, whichever was higher ; (2), a duty of 50 per cent *ad valorem* on bangles, beads and false pearls as well as on glass and glassware of other kinds, including bottles, jars, chimneys, shades, plates and other tableware. The Board worked out the incidence of the duties on articles of daily use at 5 annas per dozen tumblers, at half an anna per bottle on aerated water bottles and at ½ anna per jar. The Board suggested that the period of protection should be ten years.

This report was presented in March, 1932, but it was not released

[1] B. P. Adarkar, op. cit. p. 379.

for publication till June, 1935. It was reported at the time that the Imperial Chemicals were negotiating for a long lease of certain mineral properties from the Punjab Government in this connection. Considerable opposition in the legislature against the grant of concessions to a foreign concern resulted in the cessation of these negotiations. By a resolution dated 22nd June, 1935, Government decided to grant refunds of the entire import duty paid on soda ash of British or Colonial origin, and of the excess of over 10 per cent *ad valorem* in the case of non-British ash. This concession was first granted for three years, and subsequently extended to June, 1940. In June, 1940, granting a further extension of two years, Government observed, "The production of soda ash on a commercial scale has not yet developed in India but two industrial concerns have made considerable progress with their schemes . . . In the meantime, the arrangements announced in the resolution of June, 1935, are being continued for a further period of two years, or (if this is earlier) until the Government of India are satisfied that soda ash in commercial quantities is produced in India. The situation will then be further reviewed."

By reducing the duty on soda ash Government prevented the development of any soda ash industry in India, and this cut at the root of such development giving a chance to the glass industry to ask for protection again. At the same time, they assisted the British Chemical industry by helping imports of soda ash on a preferential basis. It has been suggested that Government may withdraw the system of refunds on the ground that the factories can purchase their soda ash from Indian concerns. If the present import duty on soda ash continues, it will mean a rise in the price of soda ash. Sooner or later, the Indian concerns would ask for protection of the soda ash industry. This would perpetuate higher prices and create difficulties for the glass industry. The Government may seek to shelve the question of protection to the glass industry by suggesting measures of tariff equality to neutralise the disadvantages thus created. It might well be said that with the turning down by Government of the case for protection of the glass industry, in spite of the recommendation of the Tariff Board, we have reached the negation of discriminating protection.[1]

Such is the brief history of tariff in India, regarding the principal industries which have been granted protection. We need not review the case of those industries where the demands for protection have been

[1] For a considerable portion of this chapter we are indebted to the excellent, exhaustive and valuable work, "The Indian Fiscal Policy" by Prof. B. P. Adarkar.

rejected. The utter inadequacy and the halting nature of the discriminating policy, adumbrated by the Fiscal Commission in 1923, have been amply borne out by this brief review. Even this policy of discriminating protection has not been followed consistently. Moreover, the inclusion of India in the orbit of Imperial Preference against her will has brought about the anomalous position of " protection within preference ", which has neutralised to some extent the benefits of discriminating protection. An impartial student of Indian economic development like Buchanan has aptly summed up the Fiscal Policy : " The influence of Manchester capitalists is written large in Indian tariff history. They have been as anxious to preserve the Indian market for the benefit of British manufacturers, merchants, bankers, and shippers, as American capitalists have been to preserve the American market themselves."[1]

CHAPTER XXV

INDUSTRIAL FINANCE

It has been only during the last 60 years that industrial enterprise has developed in India. In the first half of the 19th century, British capital in the Bengal Presidency and a few Indian merchants in Bombay started pioneer industries. Regular development of Indian industrial ventures commenced in the early years of the present century, stimulated by the Swadeshi movement. Industries require block capital for land, buildings, and machinery and for extensions. They also require working capital for purchase of raw materials, stores, for the marketing of products and for meeting day to day requirements. We may speak of this twofold demand on the part of industries as the demand for long term credit and short term credit.

To illustrate, in the paper industry a concern with an output of 10,000 tons with four machines was estimated to require Rs. 80 lakhs as fixed capital and Rs. 16 lakhs as working capital. A cotton textile factory with 100,000 spindles and 2,000 looms is stated to require a fixed capital of one crore and a working capital of a crore and a half.

Sources of Supply of Fixed Capital in India

Most of the industries in India have made up their fixed capital expenditure through public or private subscription by way of shares or debentures.

[1] Op. cit., p. 465.

A share represents the acquisition of a fraction of the ownership in an enterprise and entitles the shareholder to a share in the profits earned by the company and also in its surplus assets if the company is dissolved. A debenture represents the title of the investor to a certain amount of money lent by him. It is a loan earning a fixed interest. On dissolution of a company, the debenture holder has a first claim on the company's assets. Usually he has no voting rights as the shareholder has, because he takes no risks. Preference shares have been issued in some cases. The jute mills have relied more on the latter source of financing. It appears that 52 out of 59 jute mills in 1938-39 had issued preference shares. Debentures in India have not played a large part in industrial finance, as appears from the following table :—[1]

	Joint Stock Companies in Calcutta list	Joint Stock Companies in Bombay list
Share capital (in crores of rupees)	76.37	52.83
Debentures „ „ „	8.65	17.51

Debentures

The relatively small part played by debenture capital in India may be due to a variety of causes. The managing Governor of the Imperial Bank in his evidence before the Central Banking Enquiry Committee stated that debentures were not popular in India because investors were interested in capital appreciation and speculation rather than in steady but low yield. This is scarcely borne out by facts. Enormous amounts have been invested by the Indian public in Government securities, postal cash certificates and municipal loans, where the prospect of appreciation is not very large. The reasons for the unpopularity of debentures are to be sought elsewhere : (1) In the first place, there is no organisation in the shape of a financing agency for the issue of debentures. The Imperial Bank of India was debarred from holding debentures as security till the bar was removed by the Amending Act of 1934. (2) As there is no ready market for debentures, joint stock banks do not take to them ; they are usually taken up by a limited group of financiers. (3) Industrial companies which had issued debentures have not been looked upon with favour by banks, and such concerns find it difficult to secure bank loans on the usual terms.[2] Debentures being a first charge on the property of a concern, a company which has raised some part of its capital by debentures fails to get further accommodation from banks.

[1] Indian Central Banking Enquiry Committee, Vol. I, p. 335.

[2] Discussions with Foreign Experts, Indian Central Banking Enquiry Committee, Vol. IV, p. 163.

The difficulties of raising large sums by debentures are very great (1) Small concerns cannot issue debentures which will be taken up by the public. (2) In the case of manufacturing concerns, the companies must have worked for some time with profit before they can make debentures attractive to the public. (3) The debentures that have been issued have been raised on costly terms. (4) The small size of the volume of debentures precludes the growth of a market for their issues. (5) The attitude of the banks, which are reluctant to accept as collateral securities the shares of companies that have issued debentures, is also a factor which handicaps the development of debenture issues. (6) The Government of India has been a rival in the Indian market which has affected industry unfavourably.

The percentage of debentures to paid up capital and of preferred to ordinary shares in the case of joint stock companies cannot be ascertained as the figures are not available. In the case of tea industry for which detailed figures are available, the following table illustrates recent trends in the proportion of ordinary and preferred shares and debentures :—

Year	Preference shares	Ordinary shares	Debentures
1925	25,20,000	2,58,36,000	8,29,000
1926	25,20,000	2,59,48,150	6,30,000
1927	25,20,000	2,60,58,150	6,00,000
1928	25,20,000	2,61,08,150	5,65,500
1929	25,20,000	2,57,48,150	4,63,500
1930	25,20,000	2,56,48,150	4,63,500

The amount of preference shares has remained constant, while debentures have declined relatively to total capital.[1] The relative smallness of the proportion of debentures to share capital has relieved industries in India from the depressing influences upon profits that was characteristic of Western industries during the slump period. The Indian Central Banking Enquiry Committee estimated that in 1927 out of 100 units of capital 75 per cent were ordinary shares, 16 per cent preference shares and only 9 per cent debentures in India. On the other hand, in British industry proportions were 47 for ordinary shares, 33 for preference shares and 20 for debentures.

It would thus appear that the main reason why debentures play such an insignificant part in industrial development in India is to be found in the attitude of the banks. A change in this position in the future will be determined by a more sympathetic attitude on the part of the banks and by their readiness to popularise and facilitate a method

[1] Basu, "Industrial Finance in India," 1939, p. 119.

of raising capital which has already proved so successful in other countries of the world.

Sources of Supply of Working Capital in India

Working capital in India has been obtained in different ways by different industries. Generally speaking there are 4 sources of supply. (1) Public deposits, (2) Private deposits, (3) Advances by indigenous shroffs, and (4) Advances by joint stock banks.

(1) Public Deposits

The system of attracting public deposits is peculiar to the Bombay and Ahmedabad Cotton Textile factories. It does not prevail in other parts of the country. The development was largely due to the imperfect banking organisation. The following table illustrates the importance of public deposits in the Bombay and Ahmedabad cotton mills :—[1]

	Bombay (Figures for 64 mills)		Ahmedabad (Figures for 56 Mills)	
	Lakhs of rupees	Percentage of total finance	Lakhs of rupees	Percentage of total finance
Amount loaned by the managing agents[2] ..	532	21	264	24
Amount loaned by banks	226	9	42	4
Amount of public deposits	273	11	426	39
Amount of share capital	1,214	49	340	32
Amount of debentures issued	238	10	8	1

People trusted their savings to men whom they knew and with whom they could deal without the formalities necessary in dealing with banks. The millowners, on the other hand, secured to the depositors a safe return on their investments. The rates of interest paid on these deposits have varied from 4½ to 6½ per cent. This system has enabled the mills to borrow at cheap rates and to pay higher dividends to the shareholders. On the other hand, this method of borrowing has its drawbacks. There is a temptation of over trading with unsecured loans, and even of speculation in cotton. There is also the risk that short term funds may be locked up in the extension of plant and machinery. Lastly, sudden withdrawal of deposits by panic-stricken investors may precipitate a crisis. But the cotton mills have benefited by such public deposits. It

[1] Indian Central Banking Enquiry Committee, Vol. I, Part I, p. 278.

[2] The Interim Report of the Bombay Textile Labour Enquiry Committee points out that in 56 mills in Bombay in 1936, the amount loaned by managing agents was Rs. 7.5 crores, and in Ahmedabad in 73 mills the loans amounted to Rs. 3.3 crores. The deposits by the public in Bombay were Rs. 1.3 crores and in Ahmedabad Rs. 5.3 crores. (Report, p. 53).

was pointed out by the Chairman of the Ahmedabad Milliowners' Association that 95 to 98 per cent of the finance employed by the cotton mills of Ahmedabad consisted of fixed yearly deposits so that if a mill is in difficulties it gets a notice of 6 to 8 months in advance to arrange for its finance. In Ahmedabad, a system of long period deposits ranging from 5 to 7 years, and also of " inter-deposits ", that is, deposits as between one mill and another has increasingly come into vogue.

(2) Private Deposits

In almost all new industries in India, a method of finding working capital from private deposits provided by the industries, their friends and the managing agents is becoming increasingly prevalent. Thus, as the table mentioned above shows, the managing agents provided 796 lakhs of capital as against 699 lakhs provided by public deposits. These loans are usually given at half per cent above the bank rate and they have been instrumental in saving from liquidation many of the cotton mills of Bombay and Ahmedabad as well as tea companies in Bengal and Assam. These private deposits are free from the risk of sudden withdrawal, they provide for new industries capital which would otherwise not be easily available, and are helpful in times of temporary difficulty and depression. On the other hand, with industry dependent on financial assistance by private deposits, there is a likelihood of shaking public confidence in industrial ventures.

(3) Indigenous Shroffs

The indigenous bankers or shroffs once played a large part in Indian economic life. To-day though the old and established industries like cotton and jute are independent of these shroffs, small concerns have to go to them to avoid the formalities of advances from regular banks. The shroff lends on a personal bond and on personal knowledge charging a high rate of interest without requiring a deposit of securities or a friend's countersignature on the promissory note. The importance of these shroffs is gradually waning due to the development of joint stock banking.

(4) Joint Stock Banks

The Indian banking system consists of the Reserve Bank, the Imperial Bank, the Joint Stock banks and the Exchange banks. The Reserve Bank as a Central Bank and the Imperial Bank of India cannot make any advance for a period longer than six months nor can they lend upon mortgage or security of any immovable property. The Exchange banks have no relation to industrial finance. The other Joint Stock banks are essentially commercial banks and can give loans for short periods and

against certain forms of security only. The usual form of borrowing is the cash credit account against personal credit with a second signature to the pro note or advances against tangible and marketable security. Short term credit in India is marked by rigidity and costliness. In the enquiries made by the Central Banking Committee, it was repeatedly asserted by industrialists that the rates of interest charged were genereally higher than the industries could bear. The larger joint stock banks make advances at one per cent higher than the bank rate. Banks, moreover, insist on maintaining a margin of about 30 per cent in regard to advances against stocks. They finance industries by granting advances for short periods. But though they are always willing to renew these loans, the industrial concerns can never be certain of getting a renewal.

Managing Agents and Finance

The managing agency system arose in India during the second half of the last century and this system of organisation and management was gradually extended to almost all Indian concerns both Indian as well as British. Modern industry in India owed its development to two classes of people, British merchants who had come out to represent British trading firms and the cotton merchants of Bombay, Ahmedabad, and other centres. Enterprises were promoted and controlled by persons popularly known as managing agents. The rise of the managing agents was due to the fact that they were pioneer promoters in many of the industries like the jute mills, the tea gardens and the coal companies. They were also instrumental in supplying a regular stream of trained and efficient managers. They found opportunities for nourishing the growth of new enterprises and, as banks were not prepared to finance the long term needs of industries, they provided the necessary finances.

The managing agency firms may be described as partnerships or private limited companies formed by a group of individuals with strong financial resources and considerable business enterprise. They do the pioneering work of research which precedes the starting of new concerns, promote joint stock companies, employ their own funds and arrange for finance by acting as guarantors and manage the business. They, moreover, act as agents for marketing the produce of their companies and for purchase of raw materials, store and machinery. Thus, the early cotton mills were established in Bombay by the enterprise of a few wealthy Parsi merchants.

The financial assistance rendered by managing agents is either in the form of direct loans or in the form of guarantees for advances by joint stock companies. It is also the credit of the managing agents

that ensures a steady flow of public and private deposits. In the Ahmedabad cotton mills, the proportion of the share capital held by the managing agents is generally 40 to 50 per cent. In Bombay, it is considerably higher. In Calcutta and Madras, the managing agency firms do a large amount of banking business in addition to other activities. The firm of Messrs. Andrew Yule & Co. in Calcutta, one of the important managing agency firms, have hardly ever borrowed from any joint stock bank. They have a separate banking department of their own for financing the 54 industrial companies which they manage. In Bombay, the managing agency firms are mainly Indian. In Calcutta, they are mainly European.

Not only do the managing agents subscribe themselves to the shares and debentures of the companies they manage, but they assist in the placing of their securities on the market, performing the function which in the West is undertaken by underwriters or industrial banks.

If the question is asked why industry in India has been dependent on managing agents for its finance, the reasons are not far to seek. Firstly, capital in India has been shy. Secondly, there are no issuing houses helping in the floatation of new concerns and taking up the risks in the initial stages. Nor are there any industrial banks. Thirdly, the financing of industry from early days has been dependent upon the private managing agency firms.

Merits and Defects of the Managing Agency System of Finance

The managing agents have in the past performed essential services. Apart from their being pioneers in the floating of industries, they have been instrumental in preventing the collapse of industrial concerns in times of depression. In the jute and cotton industries, many more concerns would have gone into liquidation but for the capacity of the agents to bear the losses themselves. With a crudely developed system of commercial banking, the managing agents alone were able to continue financing industries like the jute and tea industries at a time when banks were unwilling to lock up their funds.

But whilst acknowledging the services of the system, it is necessary also to point out some of its characteristic weaknesses in the matter of finance. An important defect of the Indian managing agency system as compared to the British managing agency system is the former's hereditary character. The British managing agency always takes in as partners experienced hands from outside, while the Indian managing agency system is usually hereditary and this results many a time in inefficient management.

(1) In the first place, industry in India tends to be dominated by financial considerations. "Finance, instead of being the servant of industry, has become its master."[1] The result of the system has been to hand over the management to a body of individuals, not because they are by their ability qualified to be the directing heads, but because they have the financial resources to help the industry. When agencies are transferred from one group to another, it is the same financial considerations that prevail. Industrial ability never enters into the matter. The failure and liquidation of a number of cotton mills in Bombay may be largely due to the lack of industrial ability and enterprise on the part of frequently changing managing agency groups.

(2) Where one managing agency firm manages a large number of concerns, the difficulties of some concerns have reacted unfavourably on all and the sound and unsound concerns suffer equally. The concentration of management of several mills in the hands of a few agency firms strains the financial resources of the agents, whose abilities to finance may be limited to a few concerns.

(3) It has often happened that a concern otherwise perfectly sound has suffered on account of the unsoundness of the financial position of the managing agents. They often carry on subsidiary activities which land them into difficulties. Banks withdraw their credit, not because the concern is unsound, but because of the financial weakness of the managing agent. It also happens that the transfer of funds from a more successful to a weaker concern, both managed by the same agent reduces the profits to the shareholders of the successful concern and shakes the confidence of the investors. It has also been said that the dependence on the managing agency system of finance has the effect of taking away from the banks the responsibility for a more careful scrutiny of the financial and economic conditions of the concern.

(4) What may be regarded as a more serious weakness of the system, at least as it works in Bombay, is the enormous speculation in cotton mill shares. Any weakness in the financial position of the managing agents of one concern leads a rival group of shareholders in the same concern to get managing control by cornering shares so as to obtain a major holding. Many of the "corners" in the Bombay Stock Exchange "have been the result of the inter-dependence between the managing agents' external activities and their functions as financial agents of the companies they manage."[2]

[1] P. S. Lokanathan, "Industrial Organisation in India," 1935, pp. 225 *et seq.*
[2] *Ibid.*, p. 228.

It has been pointed out by a banking expert how the managing agency system reacts unfavourably on joint stock banking and creates a vicious circle. "The banks are spoiled by the managing agency system and the managing agents are spoiled by the banks because the banks force the joint stock companies practically to take managing agents. The banks are quite happy that companies are managed by managing agents, as it gives the banks their signatures for the loans." "The banker is thus not interested in developing other methods of financing industry ; he has two signatures, and he has no reason why he should favour another system which may be quite good for industry, but deprives the banker of another signature."[1]

On the other hand, it has been pointed out that the managing agents discharge a useful function as intermediaries between the company and the investing public. This function corresponds to that of the Industrial Banks of Germany in the investment field. When a new company is floated, the public may subscribe only 20 per cent of the capital and 80 per cent may be left in the hands of the managing agents. The agents by working the company for a number of years inspire confidence in the public and the shares are generally disposed of.

In the Ahmedabad Cotton Mill Industry, the managing agents have supplied the initial fixed capital by subscribing the share capital. In his evidence before the Tariff Board of 1932, Mr. Kasturbhai Lalbhai representing the Ahmedabad Millowners' Association, stated that in several cases managing agents held three-fifths of the shares in the cotton mills, and that there were individual cases of managing agents holding even 85 to 90 per cent shares.[2] As regards Bombay, the evidence before the Tariff Boards of 1927 and 1932 suggests that the managing agents were the majority shareholders. Only in the Bengal Cotton Mills, the managing agents have not the same stake unlike in Bombay and Ahmedabad. Still they hold a fair amount of shares, e.g. in the Bengal Luxmi Mills, the managing agents hold 25 per cent of shares and in the Mahaluxmi Mills 10 per cent of the shares. The Basanti Mills are an exception where managing agents with their relatives and friends hold nearly 80 per cent of the share capital.[3] As regards the European managing agents in Calcutta Jute Mills, the general tendency is not to hold the shares permanently, but to dispose of them to the general public as quickly as possible. In more recent times, the

[1] Indian Central Banking Enquiry Committee—Dr. Jeidels' Evidence, Vol. IV, p. 244.
[2] Indian Tariff Board, Cotton Industry, 1932, Vol. IV, p. 139.
[3] Basu, op. cit. pp. 166-167.

position, however, has changed. Thus, in the case of the cotton mills in Bombay as was pointed out in oral evidence of the Bombay Shareholders' Association before the Indian Tariff Board in 1932, in one cotton mill the managing agents held only 83 out of 6,000 shares. In the Bradbury Mills the managing agents held 624 shares out of a total of 4,000 ordinary and 6.000 preference shares.[1] But, "there have been a few cases in which these agents have turned their loans into debentures, with the result that the concerns have passed into their hands and the shareholders have lost all their capital invested in the undertaking."[2] They have in the past frequently furnished long term loans and have taken up debentures in large amounts for financing schemes of extension. During periods of depression when banks would not advance money, they have rendered considerable assistance. They have provided working funds for the industry by attracting deposits from the public. Their financial standing has been mostly instrumental in drawing such funds. They have arranged by their guarantee for all bank loans and overdrafts required by the industrial concerns under their management. They have created a feeling of trust and confidence in the investing public.[3]

Apart from providing finance, the managing agents perform two other functions. They pioneer and promote new industries and secondly carry on the day to day management of industries, a function which in other countries is discharged by a manager or a managing director.

Managing Agents as Pioneers and Promoters

In the past, managing agents have been largely instrumental in organising a number of industrial enterprises in India. The history of some of the managing agents like Andrew Yule & Co., Martin & Co. and Killick Nixon & Co. shows how men who came out as representatives of trading companies utilised their experience in the advancement of industrial concerns. They engaged the services of experts for technical purposes and developed jute mills, flour mills, coal companies and railway companies. They brought into existence industries which did not exist

[1] Even where the managing agents do not hold a majority of shares, their influence dominates shareholders' meetings, and it is rare to find a private shareholder's resolution passed at an annual general meeting.

[2] Central Banking Enquiry Committee Report, Vol. I, p. 279.

[3] This has been challenged by Mr. Manu Subedar in his minority report of the Indian Central Banking Enquiry Committee. He observes, "The managing agency system tends not to encourage but to check the flow of capital in industry. The managing agents take advantage of a rise of prices to boom their shares and unload them at top level, leaving the public to hold the baby. In this they not only play with loaded dice, but they discourage the *bona fide* investor and give to industrial investments a bad name." Vol. I, Part II, p. 331.

before. More recently, however, so far as pioneering and promoting activities are concerned, they have fallen into the background. This has happened partly because with growing industrialisation the scope of pioneering work is getting restricted, but more because with the growth of industries there is growing up a separate class of enterpreneurs who do the work of promotion themselves. This is particularly noticeable in new industries like sugar, cement, paper and chemicals. Thus in the sugar industry out of 145 sugar mills working in India in 1933-34, no less than 71 were not under the control of any managing agency firm. In the cement industry in which about a dozen concerns are principally at work, nearly half are not managed by any firm of managing agents. In the match industry except half a dozen large companies, the smaller establishments are run on a proprietary basis and have nothing to do with any managing agency firm.[1]

The new class of enterpreneurs have only recently occupied the industrial fields in India. They confine themselves to new industries as in the older industries like cotton and jute, the managing agents are far too strongly entrenched.

Managing Agency Agreements

A managing agency agreement is a written agreement between a firm of managing agents and an industrial concern (usually a joint stock company) by which the agents undertake to manage the concern in return for a certain remuneration and for some commission on sale, output or profits. The agreements are either terminable, the period being 20 to 40 years, or non-terminable as in Ahmedabad. These agreements sometimes tended to be very arbitrary. Thus the Ajit Mills, Ltd., Ahmedabad, started in 1931 appointed agents who were non-changeable, non-removable and permanent secretaries, treasurers and agents.[2]

A good deal of criticism has recently been levelled at the remuneration of managing agnts :—

(1) Remuneration in the first place takes the form of office allowance. In Bombay and Ahmedabad, a fixed monthly or annual amount of money is given for head office expenses to managing agents. In so far as this amount covers the actual expenses incurred by the managing agents in the administration of the companies under their charge, no one can object to such payment. It has been, however, alleged that the amounts such firms charge is excessive. Looking to the account

[1] See N. Das, "Industrial Enterprise in India," 1938, pp. 58-59.
[2] *Ibid.*, p. 62.

submitted to the Second Textile Tariff Board by the Bombay Millowners' Association it appears that the office allowances during the years 1927-30 averaged about Rs. 7,000 per annum per mill. In the jute industry, office allowances are charged by managing agents at the rate of Rs. 500 to 1,000 per annum per mill. It has been stated that a tabulation of the remuneration received by managing agents under this head will not yield any fruitful conclusion as the conditions governing the industries are so widely divergent. The small amount of office allowance in Calcutta is due to the more economical organisation of the European managing agents and also to the fact that in Calcutta a single firm usually controls 15 to 20 concerns.

(2) Secondly, the payment consists of commission with a stipulated minimum, which must be paid whether the companies make profit or not. This has to be paid by all companies under managing agency control. The commission is calculated on production, or sale or on profit. When the cotton industry was first established in Bombay the managing agents received a commission based on the output of yarn. When ring spindles were introduced, production increased, and agents were able to make profits even if the mills produced at a loss. After 1886 the system of payment of commission on profits was introduced, and the practice was generally accepted. Of 71 mills in 1928 in Bombay, only one mill paid commission on production and 61 paid on profit, 8 mills paid commission on sale and one mill paid a fixed remuneration to the managing director . In other centres of the cotton industry, the common method is that of a commission on output. It is usually provided that in case of losses, a portion of the commission is to be relinquished by the managing agents.[1] Now, commissions in Bombay are paid on profits, being limited mostly to 10 per cent of the profits with a minimum allowance payable per annum. In Ahmedabad, commission is based on sales, while in Sholapur it is based on deliveries. There is an additional office allowance payable in Bombay but none either in Ahmedabad or Sholapur, with the exception of one concern at the latter centre.[2]

In the jute industry, a majority of the mills still pay commission on sales. In the tea industry the usual terms are, a minimum amount when a garden is laid out, and a commission of 2½ per cent on sales and 2½ per cent on profits. In the coal industry, 10 per cent on profits is the usual return to managing agents.

[1] Indian Tariff Board, Cotton Industry, Vol. III, 1927, p. 323.
[2] Interim Report of the Bombay Textile Labour Enquiry Committee, 1938, p. 55.

The Tata Iron & Steel Co. adopted in 1916 a new method of remuneration by which the managing agents shared in a slowly rising degree in the prosperity of the company. It was agreed to continue the agency of Tata Sons for a period of 30 years, provided Tata Sons did not complete by taking up the agency of any other company manufacturing pig iron, steel and other products. The remuneration was to be 5 per cent on net profits subject to a minimum of Rs. 50,000. When the dividend declared exceeds 8 per cent and does not exceed 10 per cent, agents' commission was to be 7 per cent. When it exceeds 10 per cent, the commission was to be 8 per cent and when it exceeds 12 per cent the commission was to be 9 per cent. The net profits were to be determined after making deduction for interest on loans and debentures and for depreciation at the rate of 3 per cent.

Of the three systems the last one seems to be the best. There can be no doubt that a system of commission on production is open to the grave objection that it does away with the incentive to dispose of production at the best price. The same objection applies to the system of commission on sales. Unless the managing agents hold the majority of shares, they are only interested in selling their production, without reference to the price at which it is sold. There is a further weakness associated with commission on production or sales, as such a system creates a conflict of interests as between managing agents and the shareholders. The managing agents are primarily interested in output, without caring for the effects of excessive output on the profit making capacity of the industry.

There was another evil associated with the system of paying a percentage to the managing agents on production. It led to the manufacture of coarse goods and to overstocking regardless of market conditions. Thus as Mr. Enthóven pointed out : "It is not alone the shortness of the local staple which has kept manufacturers from experimenting in goods of the finer class. A strong inducement to adhere to the coarser goods can no doubt be traced in the financial arrangements of the majority of the mills whereby the agents are paid a fixed sum per pound of outturn. Coarse goods are produced far more rapidly than the finer counts and cloths, a fact of which the signification has by no means escaped the Agents' understanding."[1]

The question has been asked, apart from office allowances, are the remunerations paid to managing agents fair or excessive ? It is difficult to generalise in view of the widely divergent conditions that prevail from industry to industry.

[1] R. E. Enthoven, "Cotton Fabrics of the Bombay Presidency," 1897, pp. 36-37.

On behalf of the managing agents, it was urged before the Tariff Board Enquiry in 1932 that they often made substantial sacrifices in the matter of commissions.

The Bombay Millowners' Association gave the following figures covering 74 mills regarding the sacrifices made by managing agents during 1926-31 :—[1]

		Rs.
1.	Amount of commission given up by Managing Agents	28,68,7
2.	Amount of interest on loans given up by Managing Agents	31,20,5
3.	Amount of loans advanced by Managing Agents and converted into capital	1,75,92,5
4.	Losses incurred by Managing Agents through guaranteeing loans to mills from banks	69,49,5
5.	Other financial sacrifices made by Managing Agents	44,6

It may be pointed out that the last four items are financial transactions. Even in the case of commissions said to have been given the Bombay Millowners' Association could not supply particulars which challenged by the Bombay Shareholders' Association. The sacrifice commission amounts to only Rs. 6,300 roughly per mill during period 1926-31. This figure can be compared to the allowances and commissions drawn during the same period in the industry :—[2]

Year	Number of mills represented	Total allowances a commissions draw Rs.
1927	75	3,087,477
1928	73	11,832,225
1929	76	2,026,173
1930	71	1,345,444

The figures give us an average of Rs. 28,107 per mill per annum that is, nearly five times the alleged sacrifices. The Bombay Shareholders' Association mentioned cases in which managing agents received commissions although the mills made losses.

The figures supplied by the Bombay Textile Labour Enquiry Committee Report show that during the years 1934 to 1938 the total amount of commission given up in Bombay was Rs. 20 lakhs, that is an average of Rs. 4 lakhs per year and in Ahmedabad, Rs. 96 lakhs, that is, Rs. 19.2 lakhs per year on average. The amount of commission, on the other hand, charged (excluding office allowances) was Rs. 68 lakhs, that is, an average of Rs. 13.6 lakhs per year and Rs. 119 lakhs, that is, an

[1] Tariff Board Enquiry, 1932, Vol. I of Evidence, p. 95.
[2] Lokanathan, op. cit. p. 345.

average of Rs. 29.8 lakhs per year in Bombay and Ahmedabad respectively. The amount of profits calculated, before providing for depreciation, and deducting the agent's commission, was Rs. 191 lakhs in Bombay and Rs. 518 lakhs in Ahmedabad during the same period. The report observes that "even taking into account the commission forgone, payments are on a higher scale in Ahmedabad than in any other centre."[1] The average yearly commission charged for 1933-34 to 1936-37 in C.P. and Berar (5 mills) was Rs. 23,319, and the yearly average commission given up during the same period was Rs. 8,728. The commission works out at three times that given up.[2]

The following table is of great interest in this connection :—[3]

Place	Annual Commission actually charged				Net Profit or Loss as per Profits and Loss Account			
	1933	1934	1935	1936	1933	1934	1935	1936
	(Rupees in Lakhs)							
Bombay	6	11	8	10	—18	43	21	40
Ahmedabad	24	29	28	25	27	32	21	13
Sholapur	—	1.5	1.0	2.6	—	5.8	1.0	0.5

Are the figures of commission excessive ? The representatives of the Millowners' Association urged before the Tariff Board that managing agents manage as well as finance, and therefore the industry should be prepared to pay on a more liberal scale to them than to managing directors, who only manage. But (1) their financial services are amply covered by the interest they earn, and (2) any liberal allowances they get in the early stages for pioneering work should be scaled down as the industry becomes well-established. (3) The managing agents calculate their commission on gross profits before depreciation is set aside. Interest on loans, profits by way of premium on shares sold, profit on sales, are not excluded from gross profits. Thus in 1921, the Simplex Mills earned a premium of over Rs. 10 lakhs on the issue of additional capital and the managing agents charged commission on this. In 1916, the Tata Power Co. sold in the open market certain shares which had previously been forfeited, and earned a large amount of premium on the sale of these shares. The managing agents charged commission on the premium thus earned.[4] (4) If the business of a company is transferred during the term of the agreement to another party, the managing agent can claim the right of continuing in office, or compensation in the alternative, equi-

[1] Report, pp. 255 *et seq.*
[2] Based on figures given in Table XI in the Report of the Textile Labour Enquiry Committee, C. P. and Berar, 1938.
[3] Bombay Textile Labour Enquiry Report, p. 55.
[4] Memorandum of the Bombay Shareholders' Association on the Indian Companies Act Amendment Bill, 1936.

valent to the commission earned by him during the preceding five years. In Calcutta the agreements do not contain a provision for compensation. Such a practice of compensation amounts to putting a premium on inefficiency or dishonesty, as winding up proceedings or transfers of management take place as a result of mismanagement or inefficiency, and sometimes on the initiative of the managing agent himself. (5) There are a few instances in which managing agency agreements contain a clause for supplementary or secret profits.

In Bombay and Ahmedabad, the managing agency agreements include a clause providing that the managing agent may assign to a third party his interests or duties, *without the sanction of the directors*. The Tariff Board in 1932 came across an instance in which an important agency firm had an agreement by which the agreement itself could be transferred to a third party. In Ahmedabad, it is usual to provide a clause in the agreement by which the commission earned could be divided between several persons who have helped in the promotion of the company in the early stages.

Taking all the factors into consideration, it would not be unreasonable to say that the commission paid to agents is excessive. It is said that commission paid to managing agents must be assessed in relation to the services performed, and should not be considered big if the system obtains good results. There is no doubt that in Ahmedabad there is a high level of financial and administrative efficiency, but to suggest that lower rates of commission would impair efficiency is not quite correct. Efficiency in management can be secured, even though payment is on a salary basis, as in a number of countries. As the Bombay Textile Labour Enquiry Committee observes : "It will be a reflection on Indian employers as a class to suggest that, in order to induce them to exert themselves to their highest capacity, remuneration has to be offered to them on a basis which is generally recognised as unsound."[1] The system of office allowance in addition to the commission is invariably found in agreements, especially in Bombay and it is permitted by law. This office allowance is inclusive of the office salaries and other expenses, as distinguished from the salaries and expenses of the officers in the mill premises. In Bombay, the office allowances are considerable. When all the actual expenses in salaries, rents and contingencies, are met by the company, and a reasonable minimum commission is paid irrespective of profits or bonus, such a practice of paying extra official allowance is unjustified.[2]

[1] Report, p. 257.
[2] *Ibid.*, p. 258.

Managing Agents, Directors and Shareholders

The agreements between managing agents and the companies vest all residual powers (those not mentioned in the agreement) in the Board of Directors. Recent agreements, however, are so worded that even the residual powers are exercised by the managing agent alone. The choice of directors by the shareholders is limited by the practice which assigns to the managing agent the power of nominating a number of irremovable directors, who constitute a majority on the Board. The shareholders are further deprived of their voting strength by the issue of deferred shares with multiple voting rights largely controlled by the agents. The first directors of a company are usually appointed for a fixed period of ten to fifteen years ; directors are made to retire by rotation ; and a new nominee has to be approved by the Board. The removal of a director by the shareholders can only be effected by a special resolution at a general meeting with a three-fourths majority.

There is a tendency, under these conditions, for the shareholders to become suspicious and critical of the Directors and Managing Agents. This critical attitude was voiced by the Shareholders' Associations of Bombay and Calcutta, who contended for a more effective control over the policy and for fuller opportunities of knowledge of the company's position. It was also pointed out that in India there was a tendency for the directors to hold their position in far too many concerns, and the "pluralism" in directorship results in indifference and inability to perform their proper functions. Thus in the cotton mills of Bombay, one person was director in 30 mill companies in 1927. In the evidence before the Tariff Board in 1932, it was brought out that a single director worked on 65 concerns, another on 42 and a third on 34. The practice is not confined to India, as in England for instance an enquiry into the number of directorships revealed that 13 were directors of 40 or more companies, 27 of 30 to 39 companies, and 112 of 20 to 29 companies. Finally, a Board of Directors in India may be said to have no definite function to perform. If they show excessive enthusiasm, they are dropped by the managing agents. As Mr. J. A. Wadia pointed out in his evidence before the Tariff Board Enquiry in 1927, "The majority of the directors hardly take much interest in the concerns. If they are a bit active, they go." On the whole, it may be concluded that in the interests of the industries, in general, they should not be dependent on managing agents for their financial requirements. There is not only a need of direct relationship between industrial enterprises and commercial banks ; there is even a greater need for the establishment of industrial banks in the country.

Concentration of Control

From the very beginning of the rise of the managing agency system, there has been a trend towards the concentration of control of a number of concerns under one managing agency firm. This control extended to widely divergent industries at times. The following table abbreviated from Dr. Lokanathan's work on "Industrial Organisation," illustrates the extent of concentration :—[1]

Name of Managing Agent	No of Companies managed	Jute	Coal	Tea	Electricity & Engineering	Transport	Sugar	Other industries
Andrew Yule & Co.	54	10	14	18	—	3	1	8
Duncan Bros. & Co.	25	1	—	24	—	—	—	—
Martin & Co.	22	—	7	—	6	8	—	1
Octavius Steel & Co.	20	—	1	13	5	1	—	—
Begg, Dunlop & Co.	19	4	—	13	1	—	1	—
Bird & Co.	20	8	3	—	2	5	—	2
MacLeod & Co.	17	5	—	6	—	6	—	—
Gillanders Arbuthnot & Co.	17	2	3	5	—	6	—	1
Williamson Magor & Co.	17	—	1	16	—	—	—	—
Shaw Wallace & Co.	16	—	6	7	—	—	—	3
Jardine Spinker & Co.	16	4	4	6	—	—	—	2
Kilburn & Co.	15	—	3	9	2	1	—	—

The same tendency to concentration of control is to be formed among Indian managing agents. There are a few firms which dominate Indian industries to-day, e.g., Tata Sons, Birla Brothers, J. K. Industries, Dalmia Jain & Co., etc. This concentration of administrative control of a number of concerns under a single management secures co-ordination of activities, economies in the matter of sales and purchases, of supervision and day-to-day administration. Administrative integration has been called a feature of the managing agency system at its best. Without a formal combination, and without losing their separate functional existence, the various units are enabled to realise some of the economics of the large-scale organisation. The system ensures, it is claimed, some of the economies of vertical expansion. "In so far as a jute mill, a coal company, a tea garden and a boat company are all under one common management, the products of one concern find a market in the business of the others."[2]

On the other hand, it has been pointed out that better results are likely to be achieved by economies resulting from close personal attention

[1] P. 48.
[2] Lokanathan, loc. cit. p. 288.

than from concentration of management. The latter requires for its successful working either a very high level of organising ability or an equally high level of reliability and intelligence among the rank and file. In the absence of these conditions, large scale management leads to waste and irregularities. When administered with business capacity and with a sense of loyalty to the general interests of all concerned in the business, centralised control may be benficial. But there have been concerns not only poorly managed but definitely mismanaged. A centralised control affords in such cases greater opportunities for juggling with accounts and orders, unfair purchases of raw materials, crooked dealings in shares, and the subjugation in a variety of ways of some one company's interest to another interest.[1]

Inter-Investment of Funds

The managing agency system has not eliminated competition except as between the units under the same management. Indian industry has not given rise so far to combinations of the monopolistic type. But on the other hand, the concentration of management has led to a practice of inter-investment of funds, a practice particularly prevalent in the cotton textile industry in Bombay and Ahmedabad. Deposits received by mill companies at bank rate are loaned to allied concerns at the market rate, and the difference is pocketed by the management. Funds borrowed in advance for extensions are employed in allied concerns or in the managing agents' own business. The surplus funds of one concern are invested permanently in allied concerns under the same agency. In 1922, the Nagpur, Swadeshi and Ahmedabad Advance Mills purchased the debentures issued by the Tata Mills under the same agency to the extent of Rs. 60 lakhs out of a total issue of Rs. 1,00,00,000. The balance sheet of Sir Shapurji Bharucha Mills in 1921 showed an advance of Rs. 4,35,353 to the Indian Woollen Mills under the same agents.

The practice of inter-investments may bring about a co-ordination of credit under a unified organisation. But the practice may be harmful to the interests of the shareholders of a company which has surplus funds. Assistance has been given to weak companies which would not have otherwise survived and whose closing down would have been advisable in the larger interest of society. The abuses connected with the inter-investment policy have had serious results on the investing public, on whose confidence depends the future industrial development of the country. A further abuse of the managing agency system is associated with the practice of managing agents taking big loans from the com-

[1] See Buchanan, pp. 165 *et seq.*

panies they manage. The Bombay Shareholders' Association gave a statement to the Tariff Board in which they quoted instances of this kind. The Balance Sheet for 1931 of the Standard Mills of Bombay under the agency of Messrs. Mafatlal Gangalbhai & Sons showed that a sum of Rs. 3,32,000 was lying with the agents. The balance sheet for 1930 of the Shorrock Spinning, Weaving and Manufacturing Co. under the agency of Mafatlal Chandulal & Co. showed that a sum amounting to Rs. 16,17,000 had been lent to the managing agents. Such practices might well shake the confidence of investors in industrial concerns.

Indian Companies Act, 1936

As the result of agitation carried on by the Shareholders' Association, the Indian Companies Act was amended in 1936. Under the Amended Act, no managing agent can be appointed to hold office for more than 20 years at a time and even in the case of existing agencies the period of office must come to an end after 20 years. It is also provided that a company may remove a managing agent if he is convicted of certain criminal offences. The appointment, dismissal, and variations in terms of appointment of managing agents are made dependent upon the approval of shareholders. The remuneration of the managing agent is limited by the Act to a percentage of the net profits, subject to a minimum remuneration with an office allowance. The method for calculating the net profits is laid down in detail. Under the Act no company under a managing agent can make any loan to, or guarantee any loan, made to any other company by the same managing agent. Similarly, no company can employ its funds in the purchase of shares and debentures of another company under the management of the same managing agents. Finally, no managing agent can nominate more than one-third of the total number of directors.

The Act provides that every company shall have at least three directors, two-thirds of the total number being elected by the shareholders. The granting of loans to directors is prohibited, and no director can hold office of profit except with the consent of shareholders.

As regards shareholders, the new Act lays down that the prospectus must contain all matters which would enable a prospective shareholder to form an honest judgment. The articles of association must contain the names and addresses of the managing agents and their remuneration. Where property has to be purchased by a company, the prices at which the property might have been transferred during the two years preceding the acquisition of the property must be disclosed. If a new business

is to be acquired, there must be a report of a qualified accountant as to the profits made in the business during the three preceding years. Lastly, the company must render a profit and loss account, and a report of the auditors on the documents audited by them. Details of the remuneration actually paid to directors and the managing agents are to be made available to the shareholders.

It has been said that no amount of legislation can make management more efficient or honest than it is, nor can it make shareholders more active and intelligent. Nevertheless, there are signs that shareholders are awakening to the need of protecting their own interests, as evidenced by the establishment of Shareholders' Associations in Bombay and Calcutta. Though a majority of shareholders can never be expected to take an intelligent interest in the affairs of the company, there will always be a few who would be enabled by the new Act to get the necessary information and act on behalf of the general body of shareholders.

Problems of Industrial Finance

When we consider generally the financial resources of India which can be utilised for industrial development, we have, in the first place, to take account of such indeterminate items as the resources of the money-lenders and indigenous bankers and private hoards. It has been suggested that these indigenous shroffs and bankers command large amounts of money which, if properly mobilised and tapped, would help industries. At present, their activities are not co-ordinated and no attempt on a large scale has been made to establish contacts of a systematic character between them and the joint stock banks.

With regard to the amount of hoards that are in existence, so far as the agricultural population is concerned, with their phenomenal poverty and their heavy indebtedness, it is unlikely that they hoard to any large extent. With regard to the remaining 20 per cent of the population, hoarding is limited by the investment facilities offered by Government in the shape of Post Office Savings Banks, Cash Certificates, and Government Promissory Notes. The absorption of gold which marked the 25 years before 1930 evidently went into ornaments, and was followed by the huge exports from year to year after 1930, draining from the country what may legitimately be regarded as the accumulated capital resources built up in earlier decades.

Savings and Investment

All capital is the result of saving. With modern developed forms of banking organisation, whatever the individual does not immediate

consume becomes a saving on the strength of which banks can create larger volumes of capital and credit. The development of banking is determined by the growth of the investment habit which in turn depends on the earning capacity of the people, their will to save, and the facilities for investment. In India, none of these factors is adequately developed. In the past, the finance that India required for block capital and working capital was provided by the managing agency system. The banks which were purely commercial institutions did not and could not help industries to any large extent.

It has been estimated in Great Britain that the annual savings in 1929 were £500,000,000, that is, about 12 to 15 per cent of the national income. No such estimates are available for India. Dr. Jeidels in his discussions with Central Banking Enquiry Committee suggested a figure of Rs. 700 crores as the total capital invested in Government and semi-public securities, in industrial and joint stock companies including deposits with banks but excluding the bulk of foreign capital functioning in the country. When we remember that this amount has to meet the needs of short term and long term agricultural credit as well as of commerce, we can well understand how little must be left over for the needs of industrial finance. Moreover, there has been a tendency for the public to invest their savings in real property. Government, moreover, is a constant borrower, attracting a large number of investors who prefer the security of such loans to industrial investments.

How far can industry depend upon the joint stock banks for the supply of its needs ? A poor country like India has very little surplus in the shape of annual savings. The commercial classes and the salaried and professional section of the middle classes may have the will to save but their capacity is limited. There are no rules of retirement, there is no scheme of insurance, and the social demands on individual savings not only in the shape of ceremonies and charities but in the shape of maintaining dependants under the joint family organisation, leave very little in the shape of savings for these classes. It has also to be remembered that banking facilities are very limited. One has to face a vicious circle in this connection. Banking institutions cannot grow in the absence of banking habits. On the other hand, the growth of banking habits is determined by banking facilities. Moreover, there has been no intimate relationship between industry and banking in India. Banking development in India on Western lines came a little later than industrial development through the managing agency firms. Thus industry had to adopt its own methods of financing without reference to the banking

structure. When banking institutions on Western lines were introduced into India, they developed on lines already familiar in England. They were commercial banks without any reference to the needs of industry. When joint stock banking developed in the middle of the 19th century in England, the needs of industry were already provided by the financial mechanism. There were enormous reserves of capital for the supply of industrial needs. Methods of finance which were familiar in England as well as methods of commercial banking were, therefore, brought to India in the belief that institutions suited to Great Britain were equally suited to Indian conditions. In England, moreover, as well as in U.S.A. insurance companies are suppliers of industrial finance. The distribution of insurance companies' investments in England shows that between a quarter and a third of their funds are in the form of shares of industrial enterprises and securities of railway companies. In India, on the other hand, insurance companies have invested their funds in Government or semi-Government securities. Under the provisions of the Insurance Act, the insurance companies are compelled to invest 55 per cent of their liabilities in Government and Government approved securities.

Stock Exchanges

There are no strong stock exchanges in India except in three cities—Madras, Bombay and Calcutta. Till recently, in Madras shares were taken up as permanent investments. So also in Calcutta except in jute and coal shares, the buying and selling orders come from outside. The Bombay Stock Exchange is regulated by the Act of 1925 and continues to be the only institution which provides facilities for investment, in spite of its being subject to periods of frenzied speculation. The stock exchanges, however, do not touch the large number of persons who have small savings, except indirectly. The bigger shareholders all come from cities like Bombay and Calcutta. The bulk of the investments come from the rich merchants and the prosperous professional classes. The banks are mostly unwilling to advise their clients about suitable investments. In recent times, however, a few banks and brokers' firms perform this function. The public generally prefer Government securities and the small investor postal cash certificates. The large number of failures of joint stock industrial enterprises and the bank failures of 1922-23 had shaken the confidence of investors, though this confidence has partially been restored in our own days.

Investment Trusts

It has been suggested that an Investment Trust Company on the lines of the British or American institutions may help industrial finance. The

investment trust raises capital from the public by selling stock to them, which is then put in a number of investments. Such a trust takes away the responsibility of investments from the hands of the public, and supplies industry with funds. It is pointed out, however, that such companies confine their dealings to established securities, and their primary aim is not industrial. They are, therefore, inadequate in a country like India which is more or less in the early stages of its industrial development. What is needed in India is an organisation which will make it one of its objects to foster the growth of new industries and afford financial advice.

In recent years a few private and public trusts have been established to finance new industries, e.g., Tata's Investment Corporation of India. Industrial Investment Trust Ltd., Birds' Investments Ltd., Oriental Investment, Dena Trust, J. K. Investment Trust Ltd., etc. Some of these are specifically interested in the businesses and industries in which their managing agents are interested, whereas others are trusts only in name, and are floated to undertake any business or enterprise that may be considered profitable. Some of them have been run on sound lines and cater for small investors who seek security and safety. But trusts like these cannot serve the purpose of industrial banks, and cannot, therefore, be a proper agency of long term finance to industries.

Industrial Banks

Since the days of the Indian Industrial Commission, the view has been generally expressed that all the difficulties of industrial finance in India can be met by the establishment of an industrial bank. "We consider that the establishment of industrial banks," observed the Industrial Commission, "working on approved lines is of sufficient national importance to justify Government assistance." It has been pointed out that an institution created by Government would be lacking in that industrial spirit and practical experience which are necessary for success. Industrial banks require a staff who are in daily touch with the business world, and who know the conditions of each industry and a body of experts who can judge new schemes and offer advice. What is required in India is an institution which will inspire confidence in the investing public as to the soundness of the concerns to which it is asked to subscribe. The Tata Industrial Bank which was started in 1917 with an authorised capital of Rs. 12 crores was an enterprise which, if it had proved successful, would have been followed by a number of similar concerns. But it suffered because it was established in a year of boom and committed

the blunder of becoming more or less the promoter and financier of concerns associated with one firm of managing agents.[1]

The U.P. Government in June, 1936, approved of a scheme of industrial credit based on the recommendations of the Industrial Finance Committee of 1934. The scheme envisages the establishment of an 'Industrial Credit Company' or a 'Banking Corporation' with a capital of Rs. 30 lakhs with a Government guaranteed dividend at a specific rate and other Government aid towards expenses. A Marketing and Financing Company which will be linked up with the Banking Corporation to help in marketing, making small advances, etc. is also envisaged.

An Industrial Credit Corporation was formed with the help of the Bengal Government, in 1937, for the purpose of making loans for the establishment of small industries in Bengal. The Government agreed to contribute Rs. 20,000 a year for 5 years towards the administrative expenses of the Corporation and to make good from public funds one half of any loss incurred upto an amount not exceeding Rs. 10 lakhs, on the first loans issued, and when the loans are repaid, similar liability for one half of loss incurred on re-issues. The main object of the experiment is to give help to small industries and not to promote general industrial development.

The Bombay Economic and Industrial Survey Committee (1940) has also recommended the establishment of a Small Industries Bank with a capital of Rs. 25 lakhs by the Government to finance small-scale industries, the dividend to be guaranteed by the Government.

Assuming a capitalist organisation to continue in India, Indian public opinion may well look with some hope to the activities of a Central Industrial Mortgage Bank which can advise the investing public, underwrite shares and help in the distribution of risks. But if there are objections, as we have stated before, to the successful working of a State-aided Bank of this type, we are irresistibly forced to the alternative of either State financing and management of at least the key industries, or a policy of socialisation of industries by legislative measures like restriction of profits.

[1] Lokanathan, op. cit., pp. 256-59.

CHAPTER XXVI

FOREIGN CAPITAL

We have already noticed how industrial development in the last century was retarded by lack of indigenous capital and how the early British trading firms were responsible as promoters and pioneers of industry. The period of industrial development in the West coincided with the establishment of British rule in India. This country possessed raw material, untrained but cheap labour, and ready markets. As Indians were in the early days unfamiliar with the conduct of modern business, Englishmen and Scotchmen who were already established as traders in the country became the leaders of modern business enterprise in India. They invested their capital in coal mining companies, in jute mills, in tea and coffee plantations and in sugar. Most of the early industrial development of India was accomplished with the help of foreign capital. In more recent times, though a certain amount of shares in industrial concerns has changed hands and has been taken by Indians, foreign capital has been freely allowed to take shelter behind the tariff walls and to enjoy the advantages of the protective policy without any restriction.

The Montague-Chelmsford Report referred with a kind of stolid indifference to the possibility of foreign capital financing Indian industries under the protection afforded by the tariff wall. The Fiscal Commission, on the other hand, pointed out how Indian public opinion regarded with suspicion the flow of foreign capital into India on the ground that the vested interests to foreign capital tend to be antagonistic to political progress and that enterprises under foreign capital deny to Indians opportunities for training and responsibile employment.

The Fiscal Commission went to the length of suggesting that the foreign capitalist imports into the country the technical knowledge and organisation which are needed to give an impetus to industrial development—a knowledge that can be readily imported, as in the U.S.S.R., without the import of foreign capital. The foreign investments in India mostly consist of British capital. The non-British capital invested in our country has been estimated at the outside beween 150 and 200 million pounds.

Estimates of Foreign Capital Investments

It is difficult to estimate the total foreign capital invested in India. It was estimated at £298,000,000 in 1914 and at £831,000,000 in 1932-33.

An article in the *Financial Times* of 9th January, 1930, states that the £700 million figure would probably not be very wide of the mark. "The importance of our financial stake in India," the writer continues, "is fully recognised, probably, only by a limited number of experts. Most people have no real conception of either its magnitude or diversity. Many merchants, bankers and manufacturers who are actually engaged in the trade would probably find it hard to arrive at even an approximate computation of the actual amount of the capital and services which is represented. External capital enters India in such a number of forms that any calculation must be largely guess work."

An estimate by the British Associated Chambers of Commerce in India for 1933 puts the figure at £1,000 million as under :—

	(in millions of £)
Sterling Debt of the Government	379
Companies registered outside but operating in India	500
" " in India and the rest	121

Taking the returns given in the latest Statistical Abstract (1930-31 to 1939-40), we find that in 1938-39 the sterling capital, that is, the paid-up capital of joint stock companies registered elsewhere than in India, but working in British India was distributed as follows :—

	£
Railway and Tramways	23,000,000
Other transit and transport	12,000,000
Tea	26,700,000
Other planting companies	2,500,000
Coal mining	240,000
Other mining and quarrying companies	110,800,000
Cotton mills	270,000
Jute mills	3,290,000
Cotton, ginning, pressing, baling, etc.	150,000
Estate, land and building	340,000
Sugar companies	300,000
	7,290,000
Total	186,880,000
Banking and loan companies	96,250,000
Insurance companies	78,120,000
Navigation companies	35,510,000
Trading and manufacturing companies	344,370,000
Grand Total	£741,130,000

We have not included in this estimate the sterling debt of the Government of India which amounted to £350,000,000 in 1938-39, and which

has now been wiped out with the help of the sterling claims on England, which the war has enabled India to acquire through her war supplies to the belligerents. Comparing with thees figures the figures for 1917-18, we find there is a remarkable rise from £23 million for Banking and Loan companies in 1917-18 to £96 million in 1938-39. There is a similar rise in trading and manufacturing companies from £171 million in 1917-18 to £344 million in 1938-39.

There has thus been an increase in sterling investments in India by £250,000,000 in twenty years. The estimated total of British foreign investments in the world as a whole is £4,000 million ; excluding the sterling debt of the Government of India which has now been paid off, about one-fifth or 20 per cent of these investments are in India. In 1911, Sir George Paish had calculated the investments in India, at 11 per cent of the total foreign investments of Britain.

Mr. Findlay Shirras in a brochure points out that such calculations are incorrect, because they include companies doing business in other countries as well as in India. He estimated for 1929-30 the total sterling investments at £500,000,000.[1] Even assuming his argument to be correct, we have to take into account the increasing imports of sterling capital during the last few years of companies registered in India with a rupee capital. It is well known that the match industry in India is a huge combine run with foreign capital and under foreign control.

According to a recent article in the *Financial Times* of London (24th March, 1943), the total British investment in India in 1936 was £616 million, comprising £376 million Government of India Sterling obligations and £240 million other investments. The Government of India sterling obligations have been now paid off and the still surviving British investments in India now total £240 million as under :—

	£
Municipal & Port Trust Loans	15 million
Companies registered in India . .	75 „
Companies registered elsewhere but operating in India	100 „
Other trade investment	50 „
Total £	240 „

In view of the great number of foreign concerns, British and non-British that have been set up in India as " India, Ltd." passing as Indian concerns in the last few years, we have no hesitation in characterising the above figures as a very great underestimate. Moreover, the non-British investments which have been estimated at about £200 million are also

[1] " Poverty and Kindred Economic Problems in India," 3rd Edition, 1935, p. 22.

to be taken into account while considering the problems of foreign capital in India.

It is certainly a matter of great regret that no accurate statistics of foreign investments in our country are available to us in spite of the fact that the Reserve Bank of India has been functioning since 1935. The problem of foreign capital in India and its possible effects on the economic life of the country is a vital problem, and the accurate computation of the total amount of such foreign capital is a very difficult and complicated business specially since the recent development of the "India Limiteds" and the mixed holdings in a number of companies. Certain companies that appear, *prima facie*, as foreign are now owned by a majority of Indians, e.g. Titaghur Paper Mills, Calcutta, have about 80 per cent Indian shareholders. There are other foreign concerns with a few Indian shareholders. A majority of the British controlled concerns have appointed some Indian Directors on their Boards, e.g. Jatia Brothers in Andrew Yule & Co., Mukerjees in Martin & Co. and so on. The words 'India, Ltd.' are not always a sufficient clue to the foreign character of a company, for all foreign concerns do not use these words while registering in India. Again, a number of subsidiaries of foreign companies are registered in India without any indication of their foreign nature in their names. Only an agency like the Reserve Bank of India with all its resources is capable of collecting all the particulars of the foreign concerns and capital in India. In view of the vital nature of this question, it should be the primary concern of our Central Bank—the Reserve Bank of India—to organise an enquiry into the extent and amount of foreign investments in India and to keep an accurate record of the changes in them from time to time.[1]

The Western India Match Co. is run with Swedish capital and under Swedish control. It had only four factories in 1928. It has now 11, in addition to the Indian companies which it controls by holding a large

[1] A similar suggestion, it is interesting to note, is to be found in a recent U.S.A. Treasury announcement, as reported in the *Banker*, June, 1943 : "Reports are required concerning all property, subject to the jurisdiction of the United States, which is foreign owned or in which a national of a foreign country has an interest, regardless of whether such property belongs to a foreign national, whose assets have been frozen under Executive Order, No. 8389." The *Banker* goes on to observe : "Although this American experiment has sprung from the exigencies of war, its most useful application will surely be in connection with the new international exchange system, for there is now widespread agreement, irrespective of the merits of particular schemes, that much greater knowledge is required of each country's foreign assets and liabilities . . . The U.S. plan enjoins member countries as a matter of policy, "to make available . . . full information on all (foreign owned) property in the form of deposits, securities and investments."—"United States War Finance," in the *Banker*, June, 1943, pp. 170-1.

proportion of their capital. The company also controls the supply of Swedish and German match machinery through a subsidiary, namely, the Match Manufacturing Supply Company.

The capital and resources of Lever Brothers, the most powerful soap concern in the world, are considerably greater than the combined strength of all the Indian soap manufacturers. Operating, as they are, under the protection of Indian Customs, it has been pointed out that it is very doubtful if the Indian industry can survive the competition. The Engineering industry, where 300,000 persons find employment, is a preponderantly British enterprise with two British companies in control, Braithewaite & Co. (India) Limited, and Jessop & Co., Limited.

As early as 1912, Alfred Chatterton in his "Industrial Evolution of India" endeavoured to demonstrate the futility of a protective policy by assuming that our rulers would not bar the entrance of foreign capital into the country. "Protection," he observed, "would attract capital from abroad, and with the capitalist would come the technical expert and the trained organiser of modern industrial undertakings. Success would undoubtedly attend their efforts, and India would contribute labour and raw materials. The educated Indian would play but a small part; and he would in course of time realise that the protective duties mainly served to enable Europeans to exploit the country." "India does not want a protective tariff to enable an artificial industrial system to be created, the masters of which will be able to take toll of the earnings of the country, and establish a drain on its resources which will in the long run retard progress."

It has been said that protection has cost the Indian people about Rs. 500,000,000 but its main benefit has accrued to foreign interests mainly British. Even the cotton textile industry has over 20 per cent of its capital in British hands.[1] In sugar, cement, paper, matches, the foreign share is substantial. To take full advantage of the policy of protection foreign companies have opened their subsidiaries in India, registered in India. The giant concerns like Lever Brothers (Soap), Dunlop (Rubber), Imperial Chemicals, have their Indian subsidiaries. These non-Indian factories backed up with a big capital have started colossal production of matches, cigarettes, soaps, boots and shoes, rubber, chemicals, etc. driving the Indian concerns to the wall.[2] Not only do they compete with large-scale industries but they also threaten our small scale industries. In this connection, it is pertinent to note that even the Bombay Industrial

[1] Asoka Mehta, "The Heights of Simla," 1940, p. 8.
[2] *Ibid.*, p. 11.

and Economic Enquiry Commitee has been constrained to remark that the competition of the India Limiteds is a very real one. They observe : " We desire to draw the forceful attention of the Local Government to the difficulties which small Indian concerns are bound to, and indeed do, feel in the face of the competition of such concerns of a much larger size. If it is the objective of our industrial policy to encourage the establishment of small concerns, then the objective is defeated . . . if these large foreign concerns are permitted to establish themselves without reasonable and effective limitation."[1] Have we grown alive to the menace of '(India) Ltd.,' ?[2]

The Employment of Foreign Capital in India

Indian public opinion with regard to the value of foreign capital investments in India did not definitely express itself till 1922. It was the Fiscal Commission that pointed out that witnesses declared that they did not wish foreign capital to be admitted except under definite restrictions. The Commission observed that there were mainly two reasons for the distrust of foreign capital. Firstly, that the non-Indian industrial interests, finding shelter under a protective policy would work against the political aspirations of the country. Secondly, the foreign capitalists would refuse to train up Indians. It will be noticed that these were exactly the reasons which Chatterton urged against the adoption of a protective policy. The Fiscal Commission expressed themselves in favour of rapid industrialisation even with the help of foreign capital. They said : " By admitting foreign capital freely India admits the most up-to-date methods and the newest ideas, and she benefits by adopting those methods, and assimilating those ideas. If she tried to exclude them, the policy of industrialisation could with difficulty be brought to a really successful pitch. We hold, therefore, that from the economic point of view all the advantages which we anticipate from a policy of increased industrialisation would be accounted by the free utilisation of foreign capital and foreign resources."[3]

The minority of the Commission, including the president and four others out of a total of 11 members in their minute of dissent pointed

[1] Report, 1940, pp. 168-169.

[2] Some of the important foreign concerns of this type are : Lever Bros. (India) Ltd., Kores (India) Ltd., Caltex (India) Ltd., Candy Filters (India) Ltd., Dunlop Rubber Co. (India) Ltd., Goodyear Tyre & Rubber Co. (India) Ltd, Marshall Sons & Co. (India) Ltd., Siemens (India) Ltd, Skoda (India) Ltd, Tide Water Oil Co. (India) Ltd., (*vide Harijan*, Vol. VI, No. 29, p. 231). A list of 122 such foreign companies and another of 58 has been published in *Harijan* Vol. VI, No. 30, pp. 245-246 and No. 33, p. 264 respectively. The lists are not exhaustive.

[3] Report, p. 158.

out that the right to establish an industrial enterprise behind the tariff wall is a concession, that there is no distinction between Government granting subsidies or bounties out of public revenues and allowing an industry to tax the people by higher prices as the result of protection. If imposition of conditions is justifiable in the one case, it is equally justifiable in the other. They also observed that the Commission had mixed up loan capital and ordinary capital. The minority laid down conditions with regard to foreign capital invested in manufacturing industries in India. These conditions were : (1) That such company should be incorporated and registered in India in rupee capital. (2) That there should be a reasonable proportion of Indian directors on the Board. (3) That reasonable facilities should be offered for the training of Indian apprentices.

The restrictions which the dissenting minority proposed were later on endorsed in part by the External Capital Committee in 1925. The Committee recommendations were as follows : "Where investment of foreign capital carries with it the control of an undertaking, we consider it reasonable that when Government grants particular concessions to the industry, it should exercise such control over the undertaking as will ensure that the benefits of the concessions accrue primarily to the country. (*a*) Where the concession is general, as in the case of a protective tariff, it is impracticable to effect any discrimination. (*b*) Where definite pecuniary assistance, such as a bounty is granted to any particular undertaking, we consider that discrimination is feasible, and no such assistance should be granted to any company, firm or person not already enjoyed in that industry in India unless (1) reasonable facilities are granted for the training of Indians, (2) in the case of a public company unless (i) it has been formed and registered under the Indian Companies Act, (ii) it has a share capital expressed in rupees, (iii) such proportion of the directors as Government may prescribe consists of Indians. (*c*) Where a concession is granted to exploit a wasting asset such as a mineral concession, no definite rules can be prescribed."[1]

None of these recommendations was embodied in legislation. On the other hand, the provisions of the Government of India Act of 1935 lay down that no disability in regard to the holding of property or the carrying on of any occupation or trade can be imposed on a British subject in British India. British companies carrying on business in British India are to be eligible for any grant or subsidies to the same extent as is payable to companies incorporated in British India. In the case of companies not engaged in any branch of

[1] Report of the External Capital Committee, 1925, pp. 15-16.

trade or industry at the time of the legislation permission is given to Indian Legislatures to confine subsidies to such bodies as are incorporated under the rules of British India, and which offer facilities for training Indians and have upto half of their directors Indians. It has been reserved to the British Parliament to incorporate into a constitutional document under which British India is to be governed a discriminatory clause not only protecting non-Indian interests but discriminating in favour of such interests.

The main objection to the employment of foreign capital in India has always been that it draws away and out of the country the surplus production in the shape of profits from year to year—a surplus out of which further production capital could be built for the expansion of Indian industrial enterprise. There is not much of a difference between exporting the raw materials to foreign countries and importing finished goods made out of these materials, on the one side, and the utilisation of these raw materials by industries inside the country financed and controlled by foreign capitalists on the other. The only difference, if any, is that in the latter case the foreign enterprise working in India may employ a few hundred thousand low paid workers. The Indian labourer may receive his wages of bare subsistence but the skilled labour will be all foreign.[1]

Future Prospects

We have already referred to the menace of foreign concerns passing themselves off as Indian concerns ; and it is really sad to note that no action has been taken against these foreign concerns which prevent the growth of Indian concerns by their capacity of cut-throat competition and driving to the wall the Indian concerns which ordinarily lack strong financial backing. Moreover, these foreign concerns take the benefit of a protection which should really aim at giving help to the indigenous concerns only, and not to the foreign concerns. If we do not want the whole of our future development to come under the domination of foreign finance-capitalism, some urgent action against these foreign concerns is needed.

Finally, whilst we fully recognise the services which foreign capital rendered to this country in the early days of British rule, at the stage of economic development that we have reached to-day, we have no hesi-

[1] Cf "The gilded days of the nabobs would appear at first sight to have vanished at the close of the 18th century, no longer would it seem possible for the servants of the Company, paid a comparatively small salary, to retire with a handsome fortune, but these leeches have their successors who draw sums, perhaps not so startingly large, but obtained by means not radically different in kind, from investments in jute, cotton, tea and coal." A. G. Russell, op. cit. p. 42.

tation in saying that if this country needs foreign capital, it should obtain this capital by borrowing abroad on reasonable terms instead of allowing private investors and joint stock companies to exploit its resources and tolerating the economic penetration of the country that has marked the earlier period of its industrial life. As a matter of fact what has happened is that whilst the sterling loans raised abroad for the development of railways and irrigation works, which were borrowed on reasonable terms, have been paid off by the Government of India taking advantage of the phenomenally favourable trade balances during 1941 and 1942, the Government have remained stolidly indifferent to the demand for liquidating by the same mechanism the private sterling capital invested in our industries. The attitude is in striking contrast to what has been done in U.S.A., South Africa and Canada. Not only have the British holdings in 112 Common Stocks, 31 Preferred Stocks and 22 Bond Issues been liquidated in U.S.A., but some of the investments have been sold even at a loss ; e.g. the assets in American Viscose. The Dominion of South Africa has liquidated practically all the British holdings in the South African Gold Mines, while Canada has secured the British-owned Canadian securities and Railway stock.[1]

It has been suggested that external capital is to some extent necessary in the present circumstances for the purpose of hastening industrialisation and shortening the period of the consumer's sacrifice and for providing it with the modern equipment of industry. The change in India's financial condition during the last few years, which has much improved, will give India ample opportunities for commanding such modern equipment as it may require in the future. The consumer's sacrifice is a familiar argument with traders ; but it is a question of balancing the gains of industrialisation against a low standard of life such as acceptance of the economic *status quo* in India involves. As for hastening industrialisation by the help of external capital, we have already stated that there is no objection to such a policy provided the external capital is borrowed as a loan on equitable terms.

It is, however, necessary to raise a note of warning against tendencies that lie ahead. We have referred in the earlier pages to the establishment of a number of companies with British capital known as the India's Limited, not the least important of which is the Imperial Chemical Industries (India) Limited. A recent publication[2] sponsored by British capitalists refers to this company as " a solace to our military leaders and

[1] *Vide*, "Utilisation of Sterling Credits of India," Federation of Indian Chambers of Commerce and Industry, 1943, pp 6-7.

[2] " Future of Investment in India ", C.F.C., London, September, 1944.

to the industrialists and businessmen of India a source of ineffable satisfaction." The Bombay Plan, known as the Industrialists' Plan, refers to India's high credit in foreign capital markets and to the possibility of borrowing substantial amounts of capital in these foreign markets. Indian businessmen and industrialists have been invited to conferences in Great Britain and America, Indian scientists have vexed eloquent over the possibilities of an *entente cordiale* between Indian and British industrialists. Even exhortations about the desirability of a partnership between Indian and British capitalists have been received with a chorus of jubilant approval by the Press. The publication from Great Britain to which we have referred talks of the "altruistic ideals of the Central Government (of India), which has always made a co-ordination of interests of this nature the pivotal point of its domestic policy." After referring to the potentialities of investment in iron and steel, hydro-electric projects, railway expansion, tea and jute and petroleum, and the need of India for assistance in skill and enterprise and money, the publication goes on to say : "If the British pound and the Indian rupee participate to the fullest extent in the movement, then the East and West may join together in the march towards a great prosperity that lies palpably ahead." British industrialists are assured that "India provides great and promising opportunities for investment in industries that already exist, plus potential developments and additions, and that "the future of investment in India is full of promise supported by past achievement."

And this rapprochement is not one-sided : our Indian businessmen and industrialists are as anxious for this partnership as British industrialists have been. The association of one of the authors of the Bombay Plan with the Government of India as a member of the Viceroy's Executive Council, is in itself significant. But, when recently this Planning Member declared in answer to a question asked in the Central Legislative Assembly that the plans for post-war industrial development undertaken by the Government were based on the assumption that the clauses of the Act of 1935 which prohibited discrimination against British capital and enterprise would continue in operation, it becomes evident that we shall in all likelihood be subjected to a renewal of capitalist exploitation in which British industrialists will share the profits with Indian industrialists.

The way out of this vicious circle seems to lie in the direction not simply of a national government, but of a government that can utilise the enormous sterling accumulations that the war has brought to us in the development of our roads and docks and water works, above all in the extension of mass education and the provision of social services. And if

further funds are needed we can borrow on reasonable rates of interest for the nationalisation of our key industries and the development of public utilities. The imitation of a system of low-interest, long term loans abroad seems alone to point to future prosperity both for the already developed and hitherto undeveloped countries of the world. Let us not forget the example of Russia.

The U.S.S.R. had not much fixed capital in the early days of the establishment of the new regime. It was able within twenty years to achieve an economic development which took a century and more in other countries to bring about. Revolutionary Russia expected no aid from abroad nor did she desire to become dependent on foreign capitalists. Its modern economy has been built up out of production goods rendered possible by limiting the consumption of the masses and involving heavy sacrifices upon the people for a period. The prospects for industrialisation are very much brighter to-day in India than they were for Soviet Russia in 1917.

CHAPTER XXVII

COTTAGE INDUSTRIES

In 1931, out of a total population of 353 millions about 10 per cent or 35 millions were dependent on industries. During the twenty years between 1911 and 1931, the number of workers employed in all types of industry has markedly declined in spite of the stimulus given to Indian manufacturing enterprises by the first world war. The following table shows the extent of the decline :—[1]

	1911	1931	Percentage of variation
Population (in millions)	315	353	+ 12.1
Working population (in millions)	149	154	+ 4.0
Persons employed in industries (in millions)	17.5	15.3	— 12.6
Percentage of workers in industry to working population .	11.7	10	— 9.1
Percentage of industrial workers to total population . .	5.5	4.3	— 21.8

There has been a decrease of industrial workers by more than two million as a result of the continued decline of the traditional handicraft industries, and the population thus displaced was not absorbed in large scale factory work. Taking the figures of the average number of workers

[1] Kate Michell, *op. cit.* p. 277.

daily employed in factories (industries that employ more than 20 workers), we find that in 1939 these factories employed 1,751,000 persons. Taking the working population to have increased from 154 to 158 millions in the same period, the proportion of factory workers is about 1.1 per cent of the total working population. If we add to this figure about a million more workers employed in mines and railways, the percentage would increase to 1.7 of the working population.

We have already traced elsewhere the causes of this process of "de-industrialisation" as well as of the relatively retarded development of large scale production. The artisan of the earlier days was an organic member of the village community ; he owned the tools that he employed and the raw materials of his trade, which he obtained from the neighbourhood of the village or from the distant sources. The village weaver was the only craftsman who broke through the circle of village self-sufficiency and found an outlet for his products in places far away from his village. In the town, the artisans had to meet the needs of varied social groups, each with its own standard of comfort and luxury. Such craftsmen reached a high degree of skill and workmanship.

Throughout the 19th century, British policy towards India was primarily intended to meet the needs of British manufacturers for increased supply of raw materials from India and for increased opportunities of selling British manufactures. By 1850, India was importing more than a quarter of the total textile exports of England. As machine-made cloth affected the handloom weavers, so machine-made yarn affected the spinners. The craftsmen employed in silk and woollen goods, in the crafts of pottery and glass and paper experienced a similar fate. The domestic industries which once enabled even the agricultural classes to supplement their income gradually declined. By 1900, India was converted into a large scale exporter of rice, cotton and jute, of tea and oil seeds. The network of railways constructed in the second half of the 19th century "was the most important single factor in this transformation of India into an agricultural colony of British Industry," facilitating as they did the export of raw commodities and the import into the country of British goods.

The disappearance of the old trades and crafts was not only due to the flow of commodities from abroad, but also due to the export of raw materials which once were at the disposal of the worker, either as free goods like hides and skins, or obtainable at low prices. The patrons of some of these products of craftsmen in the shape of fine textiles and inlaid work—the wealthy townsmen and others centring round the courts

of rulers and chiefs were no longer to be found. With the advent of improved facilities of trade and transport, the breaking down of the barriers between the village and the town, there arose a class of merchants and traders who acted as middlemen and who helped in scaling down the remuneration to the workers and made it difficult for them to carry on their crafts. A new proletariat arose within the country, not a proletariat of industrial workers employed in large-scale production, but a proletariat of half-starved farmers and landless labourers.

Classification[1]

Cottage handicrafts and industries in India to-day may be divided into four classes : (a) peasant art and crafts carried on as subsidiary occupations by cultivators which supply their own household needs and which sometimes are intended for an extended market ; (b) industries which supply the needs of the village carried on by a specialised group of workers like carpenters, blacksmiths and potters ; (c) village art industries carried on by artisans with specialised skill and aiming at a standard of art which appeals to a wider market ; and (d) urban arts and crafts representing superior craftsmanship many of which still survive.

(a) Crafts affording subsidiary occupation to cultivators

The cultivator in India is occupied with agricultural work for about eight months in the year, and even in the busy months his work is not continuous. Amongst the subsidiary industries still pursued by farmers may be mentioned hand spinning and weaving, flour grinding, rice pounding, basket making and sericulture. Hand spinning is by far the

[1] We have followed the classification suggested by Radhakamal Mukerjee in "Economic Problems of Modern India," Vol. II, 1941, edited by Radhakamal Mukerjee and H. S. Dey. The Bombay Industrial and Economic Enquiry Committee Report suggests an alternative classification. By small-scale industries, the Committee mean, Industries where power is used and the number of workers employed is less than 50 and capital invested is less than Rs. 30,000. It also means industries carried on in Karkhanas where the number employed exceeds 9. The cottage industries are defined as industries where no power is used and the manufacture is carried on in the home of the artisan.

According to Dr. V. K. R. V Rao small-scale industries are (1) those auxiliary to large-scale industries, e.g. roller skins, pickers, motor cushions, etc., (2) those engaged in the supply of repair services, e g. motor repairing and other workshops, (3) those engaged in the manufacture of finished goods. e.g. brass and copperware, iron foundries, furniture, cutlery, soap-making, etc. Cottage industries are classified by him into (1) those dealing with cotton, wool and silk, spinning and weaving etc.; (2) those dealing with metals, e.g. brass and copperware ; (3) those dealing with wood, e.g. furniture making ; (4) those dealing with leather ; (5) those dealing with earth, sand, etc., e.g. pottery, bricks and tiles ; (6) those connected with food, e.g. canning, sweetmeat making ; (7) industries such as bangle and paper making, bidi making, etc. ("Small-scale and Cottage Industries" in "Industrial Problems of Modern India," edited by P. C. Jain, 1942).

most important of these occupations. Handspun goods made by the villagers not only supply the needs of the family, but have sometimes a wider market beyond the locality. Weaving is likewise a familiar occupation with village housewives. According to the Census Report of 1921, "there is an average of nearly one loom to every two occupied houses." The Fact Finding Committee which reported in 1912 estimates the working handlooms at two millions over the whole of India. [1] More recently, due largely to the activities of the Congress and the All-India Spinners' Association, there has been a considerable expansion of hand spinning in the villages. The spinners are mostly the landless labourers who have no work for six months in the year and whose earnings amount to an average of Rs. 5 per month by spinning. The earnings of an average spinner vary from 6 pies to 2 annas for an 8-hour working day.

Weaving

It has been said that one-third of the cloth consumed in India is produced by the hand-loom. This may be accounted for by the fact that apart from the specialised caste of weavers, there is a considerable proportion of the agricultural classes who take to weaving as a subsidiary occupation. In Bihar and Orissa, the hand-looms supply 40 per cent of the consumption of piecegoods in the province.[2]

We reproduce below a comparative table from the Report of the Fact Finding Committee (Handloom and Mills) showing cotton yarn consumed and cloth produced both for mills and handlooms :—[3]

Cotton Yarn Consumed and Cloth Produced in Indian Mills and Handlooms

Year	Cotton Yarn consumed in mills (in million lbs.)	Cotton Cloth produced in mills (in million yards)	Yarn available to handlooms (in million lbs.)	Cloth produced on handlooms (in million yards)
1900-01	88	420.6	161.6	646.4
1905-06	145	693.1	258.3	1,033.2
1910-11	218	1,042.0	217.0	868.0
1915-16	313	1,496.1	236.2	944.8
1920-21	327	1,563.1	232.8	931.2
1925-26	411	1,964.6	222.1	888.4
1930-31	519	2,480.8	314.3	1,257.2
1935-36	678	3,240.8	362.6	1,450.4
1936-37	695	3,322.1	316.3	1,265.2
1937-38	766	3,661.5	323.3	1,293.2
1938-39	817	3,905.3	425.8	1,703.2

[1] The report of this Committee was not available till late in 1943.
[2] "Economic Problems of Modern India," Vol. II, p. 5.
[3] Report, pp. 55-6.

We also give below another table from the same report showing the total production of hand woven cotton cloth per annum based on estimates supplied by Provincial and State governments for years immediately preceding the war period :—[1]

Total Production of Hand-woven Cotton Cloth per annum

(in million yards)

Province or State	Cotton Cloth including hand spun	Province or State	Cotton Cloth including hand spun
Assam	31.600	U. P. ..	255.126
Bengal	148.206	Baroda	9.265
Bihar .	76.000	Cochin .	4.000
Bombay ..	174.236	Hyderabad	76.611
C. P. and Berar ..	103.173	Jammu and Kashmir	11.464
Madras	407.027	Kolhapur & Deccan States	13.190
Orissa	56.178	Mysore .	26.280
Punjab	228.000	Grand Total	1,620.356

The Report goes on to observe that the total figure does not include Sind, N.W.F. Province, Gwalior, Travancore and some other areas. Adding 5.1 million yards for Sind, 40.7 million yards for Travancore, and 140 million yards for the rest of India, the Report estimates the total for all India at 1806.2 million yards. The total production of hand spun and hand woven cloth is estimated at 163.2 million yards.

It will thus be seen that mill production of cotton cloth increased from 40% of the total in 1900—01 to 70% in 1938—39 whilst that of handloom declined from 60% of the total in 1500—01 to 30% in 1938—39.

The hand-loom weaving industry in India is still an important industry, in fact the largest and most widespread after agriculture. The consumption of yarn by hand-looms increased from 225 million pounds in the period 1915-24 to 344 million pounds in the ten years, 1925-35. Emphasising its importance the Tariff Board (1932) observed that it provides "an occupation for the agriculturists in the season when agricultural work is slack and enables him to use his time, which would otherwise be wasted, in producing goods of a certain—even though limited —value."

In India, both the coarser and the finer qualities of goods are made by the hand-looms ; but they are losing ground as regards the coarser

[1] Report, p. 60.

varieties. During the years when the Khaddar movement stimulated the hand-loom industry the factories took advantage of the cry, and furnished an imitation which had a great sale.

According to the Fact Finding Committee the number of weavers is 11,34,178 whole time and 747.651 part time, the total being about 2.1 million. Besides these, there are auxiliary workers, some paid and others unpaid, estimated at about 3.6 million, thus giving us a total of about 6 million weavers for the whole of India, for 2 million working hand-looms. In addition to these there are the dependants, and assuming on an average 3 dependants for each of the 2.1 million weavers, the total number dependent on the hand loom industry may be estimated at about 10 millions. The value of hand loom production in India is estimated at 72.80 crores of Rupees, the value of cotton cloth being Rs. 47.10 crores, silk Rs. 14.76 crores, artificial silk Rs. 1.16 and wool Rs. 3.23 crores in 1939-40.[1]

One of the reasons why hand-woven cloth is more popular than machine woven cloth is the variety of the patterns which can be produced on the hand-made article. Moslems wear plaids which are of infinite variety while borders are common on Hindu men's and figures on Hindu women's clothing. Hand weaving supplies this demand in an endless selection of patterns. This desire for designs makes itself felt still more in the demand for silk fabrics. Each dress length is woven independently and the pattern may vary for its different parts. It is impossible to weave these economically on a power loom.[2]

In earlier days, the weavers lived in villages and worked mostly for their neighbours In towns, many worked on their own raw materials for competitive sale in a local market. To-day, the weaver has become dependent on merchants who have advanced money. They have been subjected to competition from the large-scale machine production which they have been able to meet only by increasing dependence and indebtedness. The weavers work in shops which are also their residences. Some of them erect tents in which they work, others rent a shop. A large number work at piece rate for other weavers who own houses and looms. A few employers hire out sometimes as many as 50 weavers.

Much has been done of late by the Government and bodies like the Salvation Army to improve hand weaving. Attention has been given to new types of looms. The fly shuttle is now extensively employed. The Basle Mission has helped in the introduction of new looms and in the

[1] Report, p. 61.
[2] Buchanan, op. cit. p. 76.

production of new types of cloth. Attempts have been made to provide financial help to the weaver by co-operative financing and marketing arrangements.

In spite of all that has been said in favour of cheap factory products and of the gloomy future that faces the hand-loom industry, there are certain considerations which must not be lost sight of in judging the future of the industry. The hand-loom requires small outlay. The labour supply is plentiful. It gives a subsidiary source of income to millions of the rural population, who can work in their leisure hours or in the slack season. The industry supplies a fundamental necessity of life in the shape of clothing by work at home. As far as the substitution of mill cloth by hand-woven cloth in the case of the villagers themselves is concerned, there may be some increase in the cost of the cloth, but that would be more than balanced by the additional wages provided for them by the hand-loom. Gulzari Lal Nanda writing on this question points out that Indian mills produce cloth to-day worth about 50 crores of rupees, " of this a sum of about ten crores of rupees constitute the wage bill of the industry. Khadi of the same value would provide 35 crores of rupees in the shape of wages. Khadi manufactured from the same quantity of cotton would be sold at 100 crores of rupees, of which the wage bill would amount to 70 crores of rupees. As against a rise of 50 crores of rupees in the price of cloth, the increase in the amount distributed as wages is 60 crores of rupees." There are many who would welcome in this country such a re-distribution of income.

Moreover it may be noted that hand weaving is not a decaying industry. In spite of its decline and the great development of the cotton textile industry, the latter employs only a seventh of the total number of workers engaged in cotton cloth production, while the remaining six sevenths are employed in the hand weaving industry, even after a century of competition from the mill industry. The Indian hand loom industry may well be said to have clearly shown its capacity for survival.[1]

It may also be pointed out that the hand-loom industry does not directly compete with mill-made cloth. As the Director of Industries (Bombay), Mr. R. D. Bell observed, " The mill industry and the hand-loom industry are not really antagonistic to one another. A great part of the output of the hand-loom is composed of specialised types of cloth which are not suitable as regards quantity for mass production. The amount of direct competition between mills and hand-looms is at present restricted."

[1] Fact Finding Committee Report, p. 201.

The hand-looms, moreover, provide an enormous market for mill spun yarn. The provision of ample quantities of mill spun yarn of all counts and regular twists and strength in substitution of the irregular coarse hand spun yarns of earlier days is of great help in the revival of the industry.

The success which has attended the efforts of the All-India Spinners' Association established under the inspiration of Gandhiji suggests that there is a definite and secured place not only for hand-weaving, but even hand-spinning in our economy. According to the reports of the All-India Spinners' Association, the Khaddar—hand-spun and hand-woven cloth-industry has made good progress. In 1924, the Association was responsible for producing Khaddar worth 9¼ lakhs of rupees which rose to Rs. 25 lakhs in 1925, Rs. 31½ lakhs in 1928-29, and Rs. 53 lakhs in 1929-30. In the first half of 1938, production was worth Rs. 25¼ lakhs as compared to 12 lakhs during the same period in 1937. In 1937, wages distributed to weavers and spinners amounted to about Rs. 18 lakhs. Bihar alone produced Khaddar worth Rs. 1¼ lakhs in 1938. The activities of the All-India Spinners' Association covered 13,000 villages, the khadi production being one crore and 23 lakhs of yards in 1938. The number of registered spinners and weavers was 286,000 and 18,000 respectively. These figures refer to khaddar certified by the All-India Spinners' Association ; but apart from this there is a considerable production of khaddar not certified, for which figures are not available.

With the outbreak of the present war and the subsequent rise in the price of mill-made cloth, the demand for hand-woven cloth has increased. The rise in the price of khaddar has not reached the same high level as that of mill-made cloth. The hand-loom weavers have been through their worst period. The development of hydro-electric schemes throughout the country in the future opens out further possibilities for the revival of the industry. The weavers can well stand the competition of the mills, if they can adapt themselves to the new conditions, and acquire the ability to work electric power looms in their own cottages.

As we have observed, the weaver may find it possible to compete both with the indigenous mills and the foreign imports. In the finer qualities of cloth, which are meant for the wealthier classes and which cater to individual tastes, the position of the hand-loom weaver has been said to be impregnable. In the very coarse varieties of cloth, in which the cost of production is nearly equal to the cost of raw material, the mills will not find it easy to dislodge the hand-loom worker. When the market conditions are not favourable to the hand-loom weaver, the mills may

come into the field against the hand workers who cannot reduce cost. In cloth of medium counts, the mills have the field all to themselves. During recent years, the mill industry has been protected by duties on yarn and cloth. In 1932, the Tariff Board held that in spite of the growing demand of the spinning mills for protection, the duties on yarns of low and fine counts would adversely affect the hand-loom weaver in his unequal contest with the mills. The Indian National Congress endeavoured to bring the mills to an agreement not to produce the coarser varieties of cloth. These agreements have been often broken, and there have been proposals for legislating on the issue in the interests of the hand-loom weaver.

The Government of India during recent years spent a sum of Rs. 25 lakhs over a period of 5 years to improve hand-loom weaving, a sum which is very poor indeed as compared with the importance of the industry. Provincial schemes have been concerned with the supply of appliances on a hire-purchase system, of raw materials at reasonable rate, with advice to weavers in finishing, production of marketable patterns, and with educating weavers in finishing, dyeing and printing processes. These are the problems that face the industry. There are other problems which have not yet been tackled—there is the want of organisation: there are a host of middlemen who make huge profits on the sale of yarn to the weavers and in the purchase of cloth from the weavers. There are malpractices in the yarn trade and the percentage of the middlemen's profits ranges upto 47. The Government of India has been taking keen interest in the hand-loom industry which is the largest and most widespread subsidiary industry. The problem that faces the country is to safeguard the hand-loom industry and reconcile the conflicting interests of the hand-loom and mill industry.

Well might Gandhiji call the charkha the second lung of the nation and it is interesting to note what the Oxford economist G. D. H. Cole observed in this connection : " Gandhi's campaign for the development of the home made cloth industry—khaddar—is no mere fad of a romantic eager to revive the past, but a practical attempt to relieve the poverty and uplift the standard of the Indian villager."[1]

Other Cottage Industries subsidiary to Agriculture

If we leave aside hand spinning and weaving, the cultivators show skill in industries like basket making, cane work, rope making and weaving of blankets. The collection and extraction of honey in hilly

[1] " A Guide to Modern Politics," 1934, p. 290.

districts and lac culture in areas near forests are also important subsidiary occupations for the agricultural classes.

There has been a certain amount of specialisation and localisation in regard to these occupations. Basket weaving has been localised in Benares and Allahabad districts ; the abundance of palms in Malabar and Eastern Bengal has favoured skill in wicker work and mat making amongst the cultivators. Bamboo mats made in Assam are used in roofing country boats and jute godowns in Bengal. Silk worms are reared and silk cloth woven in Assam, Bengal, Mysore and Kashmir.

(b) Village Subsistence Industries

There are cottage industries which are in the hands of industrialists who have nothing to do with agriculture. The village craftsmen include the blacksmith, the carpenter, the weaver, the tanner and potter who also supply the needs of the village, and are still remunerated by shares of grain. The goldsmith is only found in the richer villages. Sometimes craftsmen cater for a group of villagers by regular visits in turn, and by offering their services and wares at the weekly markets. The classes that combine some form of subsidiary occupation with agriculture are not confined to spinners and weavers. Artisans like the carpenter and and the blacksmith, the potter and oil-presser, have frequently a plot of land to cultivate. So much has been written about the self-sufficient character of the village in early days that it seems platitudinous to deal with the subject. The village contained almost all the elements necessary for a complete community life. The arts and crafts in the village satisfied the needs of the village. Local carpenters made the ploughs, local blacksmiths their shears, local potters supplied the utensils for cooking or for water. They received a payment for their services fixed by custom, mostly a share of the harvest.

Things have rapidly changed during the last few decades. The more ambitious among the artisans are drawn to towns to add to their income. Labour has become more mobile. The village artisans have been faced with the mass production of factories. Vessels of iron, brass and copper, made outside his village, are increasingly within the reach of all classes in the village. On the other hand, the craftsmen are adapting themselves to the altered conditions. There are commodities made by them which are still in large demand. They work with better raw materials, in some cases with better tools. "The weaver has taken to mill yarn, the dyer to synthetic dyes, the brazier and coppersmith to sheet metal, the blacksmith to iron rolled into convenient sections, in each case with

advantage to himself from the lessened cost of production which has greatly extended his market."[1]

(c) Village Art Industries

In many parts of India, the villages have been the centres for the production of goods that have artistic value. In Bengal, Kashmir and Mysore, where the mulberry trees grow in abundance, sericulture and the silk industry have flourished. Carpet weaving is associated with villages in Mirzapur and Benares. Metal work is familiar in parts of Bihar and Bengal. Glass bangles made in U.P. are exported to Persia and Arabia, and embroidered cloths woven in the villages of Bengal have a market in Afghanistan, Turkey and Persia. The manufacture of shawls in Kashmir has acquired a reputation in markets far across the seas in Europe and America. The potters' industry not only supplies vessels and dishes of daily use, but keeps busy a large number of villagers in the making of toys and images. These industries are largely linked up with the prosperity of agriculture, and any measures that are effective in the improvement of agricultural conditions will give a new lease of life to these village industries. As elsewhere, owing to lack of market facilities, the cottage artisan has found himself increasingly dependent on the middlemen, who supply the raw materials and purchase the finished commodity.

(d) Urban Arts and Crafts

The towns in India have from early days been the centres of handicrafts, which have enjoyed a wider market, and are connected with a number of products involving specialised workmanship. "The patronage of the nobility, the desire for luxuries among an ease-loving public, the religious obligation to purchse particular varieties of goods, the hereditary skill and dexterity of particular castes or groups of artisans—all these have contributed to the development of handicrafts and industries of luxury."[2] Amongst these arts may be included embroidery and brocades, gold plated thread, carpets and shawls. The economic status of these artisans has been gradually deteriorating; they have come under the grip of the middlemen. They have to struggle against the difficulties arising from the supply of raw materials. The better quality hides and wool are bought by exporters and the artisan has to pay a higher price for such materials as he requires, which means a reduction in his own remuneration. Not only do the middlemen supply the raw materials, they are also purchasers of the finished goods. They advance money to the

[1] Report of Industrial Commission, pp. 10 and 162.
[2] R. Mukerjee, op. cit. p. 12.

artisans for the supply of raw materials and take over the finished product. Often the middlemen themselves are artisans who employ fellow-craftsmen on wages, as in the weaving, the gold thread and metal industries. The total capital invested by middlemen in silk weaving in Benares alone is estimated at Rs. 2 crores. These middlemen in turn work with borrowed capital at high rates of interest.

Difficulties of Cottage Industries

The wages received by the craftsmen are in many cases inadequate, and their difficulties are added to by trade depressions, by fluctuations and changes in demand, by competition with foreign products and by sudden alterations in tastes. The great difficulty felt by the artisans is associated with the purchase of raw materials. They receive no help from banks, not much from co-operative societies. They have no assets and they can offer no security. They inevitably pass into the grip of the middlemen, who are very often themselves enterpreneurs employing the sweated labour of the artisans for their own advancement. The artisans with their low wages have added of late to the numbers of the proletariat which includes the landless labourers in the field of agriculture and the poorly paid factory workers.

In Western countries, the co-operative system as well as trading organisations have substantially helped in the protection of small arts and crafts. Co-operative societies in India have mostly confined their activities to the supply of rural credit and other needs of the agricultural population. And yet, unless the co-operative movement comes to the help of artisans, there does not seem to be reasonable hope for the revival and stabilisation of cottage industries in India. The successful working of the co-operative movement depends upon the financial resources available to it. These resources can come only through the banks or through a Government guarantee of such loans as the co-operative societies may find it necessary to raise. In the second place, the success of the movement will depend upon the extent of organisation among the workers belonging to each craft. Such organisation is at present largely absent. Lastly, the part that the State should play in the revival of cottage crafts should never be forgotten.[1] Research aided by State funds

[1] The Bombay Industrial and Economic Enquiry Committee report divides under six heads the handicaps under which cottage and small-scale industries suffer, (1) raw materials, (2) technique of manufacture, (3) finance, (4) marketing, (5) taxation and (6) other difficulties. They particularly emphasize the competition of the larger producers and lack of finance as factors hampering our artisans and cottage workers. As regards the cottage industries, they recommend the organisation of the cottage workers into associations to secure them the benefits of large scale of organisation. But "this kind of organisation,

in the tools and technique of the arts, educational institutions in the arts maintained and run with the help of public funds, the maintenance of an intelligence department for the spread of information with regard to marketing, direct assistance to co-operative societies for supply of raw materials and purchase of finished products—these are primary and urgent calls on public policy in a country where the lives and well-being of millions hang in the balance.

The Case for Small Industries

The question has been often raised if, in an age of machinery and large-scale production, it is desirable to maintain the small producer against the factory. There are people who tell us that cottage industry must sooner or later disappear, and that handicrafts involve a wastage of labour and a higher cost to the consumer. These advocates of large-scale production fail to take account of the fact that machinery increasingly displaces labour, and that with the drive towards economic self-sufficiency, protective policies and the industrialisation of countries regarded as economically backward, a saturation point has been reached which places limitations upon an indefinite expansion of large-scale enterprise. With growing industrialisation in India, there will be a growing need for finding sources of employment for those who are displaced by the use of machinery.

The possibility of improving the methods of handicrafts and domestic industries should never be lost sight of. It is not correct to assume that because mass production is the condition of efficiency in some industries it is equally desirable in all. This mistake was made in many parts of Europe and is now being corrected in part. It would be wrong to ignore the possibilities of our traditional economic organisation. Wisdom would lie in the direction of helping these small producers by improving their technique and strengthening the financial organisation of their industries.

however, we are convinced cannot be expected to spring spontaneously out of the endeavours of the artisan classes", due to their ignorance, illiteracy, conservativeness and the grip of the middlemen over them. According to the Report, State help and initiative of substantial type over a long period are absolutely necessary and they also opine that State management is also necessary. They also recommend the formation of a Provincial Cottage Industries Research Institute, the formulation and execution of a stores purchase policy with a cottage bias, the holding of periodic exhibitions and the creation of permanent museums for the popularising of cottage products, and also an agency to help or finance cottage industries. They recommend the establishment of Industrial Associations with a capital of Rs. 25 lakhs. With reference to small-scale industries, the committee recommend that the Provincial Government should help to start a Small Industries Bank with a capital of Rs. 25 lakhs to finance them and active State help in all matters especially technical. (Report pp. 94 *et seq.*, and 158 *et seq.*)

The problem of " technological unemployment," as it is often called, is becoming more and more acute to-day even in the West. The new inventions rapidly displace human labour which finds increasing difficulty in obtaining new employment. Thus, for example, the introduction of the ' continuous hot-strip mill ' in the steel industry in the 27 mills of Pittsburg since 1926 has thrown out 100,000 workers. Under the old system, 125,000 steel workers were required for an output of 15,000,000 tons of steel, while now 15,000 men produce 14,000,000 tons of steel in the new hot-strip mills.[1] As Mr. Philip Murray, the Chairman of the Steel Workers' Organising Committee, says, " The continuous automatic steel strip enables 126 men to do the work previously performed by 4,512."[2] Every new automatic machine, every new photo-electric cell, every new invention displaces human labour on a scale that creates its own problem. In large-scale enterprises and in established industries, the latest technical processes are applied and old processes are replaced by new ones, thus creating a new problem of " technologically fired " labourers. It would thus appear that the greater the extent to which large-scale production is developed, the greater the need for the development of a large number of small-scale industries into which the technologically unemployed can be absorbed. In a planned society, where work is found for all able-bodied men and women, such small-scale industries may give ample scope to the craftsmen for expressing their individuality by embodying their own designs and conceptions in the commodities they produce.

Apart from this, there are other considerations of a vital character which favour small-scale industries distributed over the country side. The heavy concentration of industries in a few cities or areas of the country is not desirable from the point of view of equitable regional distribution of the industries. Assuming that the nations of the world will continue to live in the same " state of nature " as they have done in the past, it may be desirable to distribute the industries all over the country to escape concentrated aerial attacks which might otherwise cripple the fighting capacity of the country by destroying its basic industries. The West shows signs of disillusionment with modern large-scale industries and their attendant evils. We might well absorb the lessons which Western experience teaches us and in our planning be prepared to give up some of the external and internal economies of large-scale production so that we may be saved from these evils. Further, we must not forget

[1] Stuart Chase, " The Twilight of Communism in the U.S.A.," in *Reader's Digest*, September, 1941.

[2] *The New Republic*, 6th May, 1940.

that the development of large-scale enterprise by itself does not lead to maximisation of human or even economic welfare.[1]

The assured place that cottage industries are bound to have in our planned economy is revealed by the success achieved by the All-India *Village Industries Association established in 1934* under the inspiration of Gandhiji. "The Association fixed on a minimum wage, organised exhibitions and museums to demonstrate the possibilities of persons taking to village industries, carried on propaganda to make the village people conscious, and develop their economic thought along decentralisation of industries."[2] On the advent of the Congress Ministries in 1937, some schemes were tried out with varying degrees of Government aid and some surveys and economic plans were undertaken. The Association is also carrying on the work of Village Uplift and Rural Welfare. Industries like paddy husking and flour grinding, oil pressing, gur making, bee keeping, paper making, soap making, tanning and leather work, coir spinning and weaving, mat and basket making, slate-pencil manufacture, etc., have been encouraged with varying degrees of success in suitable villages. In 1935, the Gram Sevak Vidyalaya was started to train students in various village industries and rural social work.

We may not agree entirely with those if there are any such, who advocate a return to the simple life of a remote age and who would scrap all machinery and large-scale production. We recognise, however, that large-scale production has under our present distributive machinery brought with it unemployment on an unprecedented scale and has degraded or has a tendency to degrade human labour to the level of the machine. The existence of cottage industries and handicrafts side by side with factory industries may not only absorb the population displaced by machines, but save them from degradation which idleness supported by unemployment doles usually involves.[3]

[1] The special appeal addressed to Gandhiji at the time of the Second Round Table Conference by a disillusioned American has an interest of its own. "This is particularly appropriate moment, it seems to me, for you to be visiting London, because apart from the political questions, it seems to me to be a time when the Western world is disillusioned in regard to machinery in general, in regard to mass production system we have built up in Germany and America in particular, and people are feeling somewhat bewildered and doubtful as to their value and asking themselves whether we have not, after all, overdone it." (Quoted by L. C. Jain in "The Working of the Protective Tariff in India," 1941, p. 65).

[2] All-India Village Industries Association Report, 1941, p. 1.

[3] Because we are pleading for a place for small scale and cottage industries, we must not be understood to deny the necessity for large scale modern industries. It is impossible, and it would not be wise, to go against the tide and to neglect large scale industry. Our economic structure should secure a proper integration of cottage industries with large scale methods of production.

A survey of the present position of small industries in various countries would bring out the fact that they form an organic part and have a place in the economic organisation of every country. The imposingly rapid growth of large industry, "electric power and the steam engine, the demands for cheap goods of uniform pattern, capitalist power and the juggernaut of modern labour policy crushing individualism under its huge wheels of insistence upon collective fighting with an ever mobilised army, which grudges individual workers their freedom – these have wrought sad havoc in this once fruitful field of human industry."

It would appear that even in England, the employment of workers in their own homes or in workshops under small masters still survives. Charles Booth gives us a vivid picture of the conditions under which industries like tailoring and shoe making at White Chapel and silk weaving at Bethnal Green are carried on. Cutlery in Sheffield, lace making and hosiery in Nottingham, straw plaiting in Bedford, the glove industry in Worcester are all small-scale industries still carrying on in the midst of a factory-ridden environment. In Japan, the cottage workers in a variety of crafts have found a medium for creative expression.

The prospects of a successful development of village industries in India on economic lines are fairly promising. There are enormous resources in this country for the development of cheap electric power which could be utilised for small-scale production in villages. The Indian artisan, though he has been charged with following routine methods of work inherited through generations, is always ready to learn and adopt better methods when he is convinced about their practicability. The cultivator who grew sugar cane, and once used the inefficient wooden mills, has readily taken to the use of cast iron mills, which involve less labour and yield a larger percentage of juice. Wood workers and metal workers have taken to European tools ; oil extraction is largely done in screw presses. Every tailor's shop in the village has a sewing machine. There are evidences of a healthy spirit of adaptability to new conditions. The close and heated atmosphere of factory life, its overcrowding slums, and its hard work and discipline have no attraction for the village craftsmen. He is a cultivator by tradition and temperament. If he migrates to the town, he does so out of sheer necessity. The cleavage in family life caused by migration may even have a bearing on the so-called inefficiency of individual labour. "Culture and refinement come to the artisan through his work amidst his kith and kin."[1]

[1] R. Mukerjee, "Foundations of Indian Economics," p. 326.

On the other side, if the artistic tastes of the population are again fostered through stress laid on the aesthetic side of human life in our schools and colleges, we may lay the foundations for a steady demand for a large variety of hand-made goods which give scope for self-expression to the men who make them.

Thirty years ago, in the last edition of one of his books, Prince Kropotkin pointed out how, scattered throughout Great Britain, France, Switzerland and Germany there were to be found small industries and petty trades, workers in wood, in metals, in bone, basket makers and cutlers who brought the workshop into fields and gardens and carried on their business, not for the sake of large profits, but for the satisfaction of human wants. The geographical distribution of industries in a given country is determined to a large extent by a complex of natural conditions. The banks of a river are appropriate for ship-building yards, and must be surrounded by a variety of factories. Industries will always find some advantages in being grouped according to the natural features of separate regions. But as a matter of fact, historical causes have very often determined the growth and distribution of industries, and with the increased facilities for transport and power production made available, there is no reason why civilised nations should persist in the concentration of industries in large towns.

We are still in the early stages of industrialisation. We have not yet become fully enmeshed in capitalistic trusts and combines. The Indian craftsmen are heirs to a tradition and training transmitted through the ages. Their environment has an unbroken continuity of culture. Those who maintain that, with the growth of industrialisation there is no room for the village craftsmen and for the cottage industries of the earlier days, in their eagerness to imitate the institutions of Western industrialism, are not alive to the reactions which this industrialism has brought with it. The case for cottage industries has often been pleaded on the ground, not only that they give opportunities for creative work to those that are engaged in them, but that they guarantee that happiness thus found in the full exercise of a many-sided human life is not based on the misery of others.

The point, however, is that even on strictly economic grounds, the case for a greater emphasis on relatively small-scale production is stronger in India than elsewhere just because of the relative cheapness of labour as compared with capital. If India has to remain a primarily agricultural country, the majority of our people must continue to live in the villages. This simple consideration also reinforces the case for the

encouragement of a wide variety of cottage industries catering, more or less, for local needs. The question ultimately is one of research. Given a clear understanding of the problem, it would certainly not be beyond the wit of man to devise means and methods, by which the efficiency of even small-scale production can be increased and cost of production correspondingly reduced. A State research department, dealing mainly with the technical and economic problems relating to cottage industries, should be able to help greatly in this matter.

CHAPTER XXVIII

THE FUTURE OF INDUSTRIALISM

The phenomenal poverty of the people of India and the richness of her potential resources are facts which have been universally admitted by writers both in the East and in the West. A British writer in an article in the "Quarterly Review" of April, 1917, observed: "It is a matter of common knowledge that the standard of life in India is undesirably low; while the masses of the people are provided with the necessities of a bare existence, they are in far too many cases badly clothed, badly doctored and badly fed, often overworked and often underfed; and that the present income of the country, even if it were equitably distributed, would not suffice to provide the population with even the most indispensable elements of life." These words are true even to-day after a quarter of a century. This fundamental fact of poverty raises the question whether the condition of the population cannot be improved by adopting a different system of production. The cure for poverty was naturally looked for in an intensified industrial development, by economists and leaders of thought who had before their minds the example of the very country which ruled over them—a country that was able to support by industrialisation a growing population on a rising standard of comfort all throughout the last century. Shall India follow the example of Great Britain and through a policy of industrialisation achieve a higher standard of comfort for its teeming millions?

Is India to Continue to Remain a Predominantly Agricultural Country?

There are not a few amongst the "friends" of India who maintain that India was a predominantly agricultural country in the past, and that, whatever prospects there exist for industrial development in the future, for a long time to come the bulk of the national wealth of India

must continue to derive from the land. Our attention is drawn to the enormous increase in the yield from land that has resulted from intensive methods of farming with mechanical appliances in other parts of the world. And we are asked if, under these circumstances, it is advisable to divert our labour and capital to industry where India will have to struggle long with foreign competitors before she acquires the requisite skill and efficiency. These views found typical expression in an article by J. M. Keynes—yes, no less a person than Keynes—in the *Economic Journal* in 1911 reviewing Theodore Morison's "Economic Transition in India." He criticised the current opinion in India, "where a considerable part of the educated classes seems to desire with patriotic fervour the industrialisation of their country and the greatest possible development of manufacture." "In my opinion such a change is not, in the future which one can see, either desirable or likely. It is an unfortunate consequence of the English connection that industrialism should present itself to India as the royal road to prosperity and to a dignified position among nations. Because England in the Middle Ages bore many resemblances to India, and because industrialism has since made England rich and powerful, the subjection and poverty of India are due it is thought to the absence of it. . . . Sir Theodore Morison misreads the times when he regards Bombay rather than the never ending fields as the sure presage of India's future. . . . Improvement in communications has led to some degree of specialisation among nations, and if regard be had to climatic conditions and to the aptitudes and habits of her people, it seems hard to believe that India will not obtain more wealth by obtaining from the West, in exchange for her raw products, most of those commodities which she now obtains in this manner, than by diverting her capital and her peasants from the fields of the country to Bombay in order to make them herself." Whilst disputing the view that the immediate prosperity of India depends on industrialisation, he asks whether there is not good reason to believe that it is to be sought almost entirely in the application of more skill and knowledge, and specially of more capital, to the methods of agriculture. It is possible that in the years that have passed since the above was written Mr.—now Lord Keynes—has changed his views on the matter.

But here is Dr. Vera Anstey writing as late as 1941 : "Despite her immense and heterogeneous resources India still suffers from serious drawbacks in industrial power, and enervating climate, lack of industrial leadership and grave defects in the sphere of organisation and finance. Capital is scarce and dear, chiefly because of the superior attractions and security afforded by other uses. Labour is inefficient and untrained. The recent

expansion of industrial output, owing to the protective policy, has been achieved at the expense of the cultivators, who have to pay more for what they buy. . . . My own conclusion is that India cannot expect to proceed far or fast upon the road of large-scale industrial development and the intensification of protection would merely increase the profits of a small section of the population at the expense of the masses. India's crying need is for improvement in the output and consuming capacity of the rural population. Capital investment should, therefore, take the form of permanent improvements in the land, better housing, water supply, drainage, and of other public facilities designed to promote efficiency and rural employment."[1]

The View Examined

The argument for perpetuating an economic organisation in India based purely on agriculture rests upon certain fundamental assumptions :

(1) In the first place, it is assumed that a country cannot have a simultaneous development of agriculture and non-agricultural industries. We are well aware that agriculture will continue to be our staple industry and that it needs to be improved by a comprehensive programme of irrigation and scientific cultivation. Whatever measures improve the standard of life of the industrial population by the growth of our industries will also create opportunities for agricultural development. Those economists, who in the name of geographical specialisation desire to perpetuate a division of countries into those which are predominantly industrial and those which should remain the suppliers of food and raw materials, are apt to overlook the geographic relationship between industries and agriculture in all countries, which are well-endowed by nature like the U.S.A. the U.S.S.R. and India. They also overlook the increasing desire of countries like Great Britain to develop agriculture to the utmost limit of their resources. Moreover, to regard the geographical division and specialisation of industrial and agricultural countries of the 19th century as valid to-day is, to say the least, taking a very static view of economic theory and reveals a blissful lack of knowledge of changing world economy.[2]

(2) These well-wishers of India also seem to fear that industrialism will divert the limited amount of capital available for investment from the

[1] O'Malley, op. cit. pp. 292-3.

[2] Cf. "It should be clear, however, that any existing scheme of international division of labour is only the historically determined result of a constantly changing combination of factors. . . . Consequently, it would surely be wrong to-day to use the pre-war scheme of international division of labour as a criterion by which to judge the present industrialisation of new countries." W. Ropke, "International Economic Disintegration," p. 175.

needs of agriculture. This fear is equally unfounded. The funds available for industrial concerns in India come from the professional and the mercantile classes and not from the ryots. In the absence of industries, such funds would not have been available for agricultural development. The Fiscal Commission observed in this connection : "It might be argued that the attraction of capital to indutsries will have a harmful effect on agriculture by diminishing the amount of agricultural capital. We do not think that any such result is likely. So far as agriculturists lock up their capital in ornaments or in Government paper, the employment of this money in successful industries would produce more profit, which could, if necessary, be devoted to agriculture, while at the same time no capital which is being actually employed for agricultural purposes is withdrawn. On the other hand, we see no reason to believe that the capital employed in agriculture provided through mortgages on land, is likely to suffer any diminution, so strong is the sentiment in favour of investment in land."[1]

(3) When too much stress is laid on capital investment in the form of permanent improvements in the land, as Dr. Anstey does, it is forgotten that the field for such investment is limited. Let us take irrigation for purposes of illustration. As early as 1903, the Irrigation Commission observed : "We are far from considering that irrigation in India has reached its limit, but we are convinced that there are many parts of India where the utmost use of every available means of irrigation will fail to afford complete protection against failure of the rainfall."[2] It is also necessary to remember that the burden on the land in India is heavier than in other countries. "Comparative figures show that ordinarily a density of 200 to the square mile presupposes the existence of industries and manufactures to support it."[3] The proposal to divert our labour and capital resources to the development of agriculture overlooks the fact that we have an enormous surplus population which the soil is unable to support, and that intensive agriculture with mechanised methods will aggravate our difficulties by adding many more to the surplus population.

It is not, therefore, unnatural that those who are alive to the present economic maladjustment in our country should look to industrialisation as a possible solution. It is worth noting that Dr. Anstey, who talks in one paragraph of the expansion of industrial output having been achieved at the expense of the cultivators, in the very next paragraph observes,

[1] Report, p. 24.

[2] Report, Part I, p. 14.

[3] Pillai, op. cit. p. 60.

"India has been gradually drawn into the orbit of the world trade cycle, and has hence become increasingly dependent upon forces over which she herself has little or no control."

Such views are based on the assumption that India should for ever remain a 'hewer of wood and drawer of water'—a supplier of raw materials and a market for the sale of manufactured goods. But our future does not lie in the direction of an expansion of foreign trade as we have been repeatedly told. It lies rather in the development of our internal trade—catering for our own home market which has vast potentialities. We need a many-sided development of our agriculture and industries properly planned and executed with the definite objective of satisfying the needs of the community.

Industrialisation

In advocating a policy of industrialisation, we have in mind the fact that India is well-situated as regards natural resources. Our large area and plentiful supplies of raw materials of all kinds render us potentially capable of developing a balanced economy like that of the U.S.A. We are capable of becoming self-sufficing as regards food stuffs and industrial products with an immense home market for our manufactures. Already our country is tending to self-sufficiency in the matter of cotton piecegoods, iron and steel, matches, cement and sugar. So also in paper manufacture, glass, soap and other articles we may soon be able to satisfy the internal demand. The fear has been expressed that the industrialisation of India would bring about a decline in Great Britain's share in the Indian market. Those who take this view are needlessly over anxious. India's imports consist chiefly of high quality goods including machinery, plant, instruments and chemicals. And it will take some time before India will be able to produce all these high quality goods. Moreover, industrialisation will be accompanied by the creation of new needs and new demands. Any rise in the standard of life amongst the millions of India would involve an increasing demand for the comforts and luxuries of civilised life.

Yet, there are considerations which have given reasonable ground for apprehension that the development of industries in a country like India may affect adversely the interests and standard of life of the British people. "The trade of Great Britain and its economic condition depend largely on the imports of raw materials from, and the exports of manufactured articles to, other countries of which India is one of the most important. For over a century India, with its teeming millions, has been

one of England's best customers ; at one time, ninety percent of its cotton fabrics came from Lancashire. The prosperity of India has contributed to the prosperity of England which until recently has had little to fear from its industrial competition. But as the population of India increases without apparently a corresponding increase in the productive capacity of the land, it tends to consume more of its food produce. At the same time, India is becoming more of an industrial country and supplying its needs from its own resources to an increasing extent. It is already entering into competition with Great Britain in some branches of industry and as British goods are undersold by Indian products, the latter country is beginning to realise that the products of British labour are adversely affected by cheap Indian labour."[1]

A fear like this is based upon the assumption that a highly industrialised India will follow in the footsteps of Great Britain and Germany, and after having reached the point of saturation at home will proceed to expand its production with a view to enter the international market by *dumping its goods abroad at a price below the cost of production*. It is a far-fetched contingency at the best. Let us hope that the India of the future will not follow a policy so fundamentally different from its historic traditions in the past.

But there are still other considerations which make a fear of this kind extremely unfounded. The process of industrialisation involves the accumulation of capital. The savings which make such accumulation possible cannot be built up all in a day. The supersession of industrial Britain by an industrialised India will have to be a slow process ; if it is accelerated by the loan of capital from the West, the interest charges will provide additional expenditure by the recipients of the income. Growing industrialisation also means growing dependence on other countries for raw materials not available at home. "Given an expanding volume of production, a rising standard of life, and the existence of local differences of costs and productive possibilities," international trade is capable of indefinite expansion.[2]

Even assuming that industrialisation in India will affect British industries which have been supplying their manufactures to India, there is no reason why India should not develop industries which have good possibilities and the development of which alone can bring about a balance

[1] O'Malley, op. cit. pp. 808-9.

[2] Hubbard, "Eastern Industrialisation and its Effects on the West," 1938, p. 373.

in our economy.[1]

Industrial Development and Finance

There is not much room for doubt so far as India is concerned that industrialisation offers large prospects of raising the appallingly low standards of life of the people. But this industrialisation need not be of that aggressive imperialistic type which has been associated with some of the Western countries, which have sought a monopoly market in their dependencies and possessions by an exchange of finished goods for raw materials. It will be of a healthier type, developed and fostered with the sole object of giving to her people the means of healthy living, and giving them the leisure and opportunities for the play of a creative intelligence, which machinery makes possible with no desire for capturing foreign markets or offering goods to other countries out of a surplus produced for dumping.

In India industrialisation is in its infancy. In no country of the world has it been more than a century old except in England. Germany was by 1900 one of the greatest of industrial nations but her elevation to that position took less than a single life time. Japan modernised her industrial organisation in less than a generation. In India, we have to face the poverty of our agricultural population, a social environment set in the mould of the past and not easy to change, currency and exchange difficulties, the control by foreign interests of our finance and transport and commerce, the exploitation of our mines and plantations by foreign capital. Indian capitalism may be in process of development but is by no means an improvement on the imported capitalism. Our railways and banks are dominated by foreign interests. What is surprising is not that industrialism should have developed by slow stages as that it should have

[1] Since we expressed these views, we are happy to note that economists in the West have recognised the prime necessity of industrialisation of the predominantly agricultural countries. See articles by H. Frankel and P. N. Rosenstein-Rodan, "The Industrialisation of Agricultural Countries" and "Problems of Industrialisation of Eastern and South-eastern Europe", in *Economic Journal*, June-September, 1943. Such industrialisation of "international depressed areas" is in the general interests not only of the countries concerned but of the world as a whole. "The aim of industrialisation," observes Prof. Rosenstein-Rodan," in international depressed areas is to produce a structural equilibrium in the world economy by creating productive employment for the agrarian excess population." Economics as a science is closely associated with considerations of expediency but it is a short term view of expediency that makes Lord Keynes and his confrères to emphasise the desirability of India remaining predominantly agricultural. If the present structural disequilibrium in India and elsewhere is allowed to continue with the accompanying lack of purchasing power, it may inevitably lead to the disintegration of the industrial prosperity of the West. It is not a mere accident that the industrialised countries of the West have started planning, in view of shrinking markets, and even improving the standard of living in backward countries.

developed at all. The question that concerns us at this juncture is, if industrialism based on power and machinery is coming—and it is bound to come—is it possible to direct and control it in the general interests of our people as a whole ?

The growth of large-scale production and capitalism in India has been marked by features which may to some extent be said to be distinctive. We have already indicated how in the earlier stages British firms that had originally been established in India as trading companies soon turned their attention to other activities, and finding a country with undeveloped resources used their business experience in organising industrial concerns. As managing agents they developed a number of industries including jute mills and collieries, tea gardens and railway companies. They supplied the capital required by the industries and facilitated the flow of British capital to Indian industries. The lack of indigenous capital and Indian industrial enterprise in the early days gave the British merchants their opportunity. The European agency houses possessed considerable amounts of capital and went on extending their interests to more and more concerns. We have already referred to the control and concentration of industrial concerns of a variety of kinds by the European houses that acted as managing agents.

When by the middle of the last century, joint stock companies began to be formed, they were formed on the same basis. They performed at the same time the functions of the capitalist, the enterpreneur and the business manager. They supplied not only the block capital but also the working capital by attracting deposits of friends and the public and by guaranteeing loans granted by banks. In Western countries like Germany, industrial development has been largely made possible through the organisation of industrial banks. The industrial development of England was largely due to private capital attracted to new ventures and helped by banks and investing houses. In India, banking developed only recently, and has never helped to any considerable extent in the fostering of industrial enterprise. Under the circumstances, it is not difficult to understand why the managing agency system should have played a prominent part in the fostering of Indian industries.

We have traced elsewhere the development of merchant capitalism gradually leading to finance capitalism in India. In the growth of finance capitalism in our country, our banking structure in which the foreign banks predominate, and which have been mostly interested in the development of foreign trade and not in any scheme of industrialisation, have played an important part. This is also responsible for the tardy growth

of industrialisation. As Sir Visvesvaraya observes, "One of the chief difficulties in starting industries in India is finance. This arises from the fact that the money power of the country is under the control of the Government which does not see eye to eye with Indian leaders in regard to industrial policies. Banks under the control of Indian businessmen are very few, and many of the larger banks are either under the influence of Government or are branches of British and foreign banks."[1]

Concentration of Control

It is significant that the tendency towards concentration of control and finance which was characteristic of the managing agency system in the earlier days should have been accentuated in our own times and particularly during the war years. A table that we have already supplied earlier reveals the fact that in 1939 in 64 cotton mills in Bombay, the share of the managing agents was 5 crores and 32 lakhs as loans advanced to the mills and constituted 21 per cent of the total finance of the mills and an additional 9 per cent of the total finance amounting to Rs. 2½ crores was loaned to these mills on the guarantee of the managing agents.

Similarly, the Tariff Board Report on the Cotton Textile Industry, 1927, gives us the data for the following table :—[2]

	Bombay Cotton Mills			
	Mills	Spindles	Looms	Capital in millions of rupees
Controlled by British managing agents (9)	27	1,112,114	22,121	98.9
Controlled by Indian managing agents (32)	56	2,360,528	51,580	97.7

The British managing agents controlled only 22 per cent of the companies, 33 per cent of the mills, 32 per cent of the spindles, 30 per cent of the looms and 50.3 per cent of the capital. It should be noticed that this concentration of British managing agents occurs in an industry like the cotton industry which has been the chief field of activity of Indian capital. The depression that followed in 1929 enabled the managing agencies to get a stronger grip over the finances and in some cases to expropriate the Indian shareholders. In times of crises as the Banking Enquiry Committee point out, the managing agents have in some cases turned their loans to the mills into debentures with the result that the concerns have passed into their hands and the shareholders have lost all their capital in the undertaking.[3]

1 "Planned Economy for India," 1934, p. 95.
2 *Labour Research*, June, 1928.
3 Report, Vol, I, p. 279.

The concentration of control is common to all industries. In jute 53 mills with a capital of Rs. 18 crores out of a total of 100 mills with Rs. 23 crores are controlled by 17 managing agents. Four of them control 30 mills. Out of 247 coal companies with a capital of Rs. 10 crores, 60 companies with a capital of Rs. 6¼ crores are controlled by 18 firms. Four of them control 31 companies. In tea, 117 companies are controlled by 17 firms, five of these control 74 companies. Similar concentration of control exists in sugar and other industries. In the cement industry, the Associated Cement Company has taken over the business of 11 different companies.

The British India Corporation formed in 1920 has a capital of Rs. 1¼ crores with a single Board of Directors and controls two woollen mills, one cotton mill, The North-West Tannery Co., Cooper Allen & Co., one of the biggest boot-manufacturing company and G. Mackenzie & Co. dealing in automobiles.

In Western India the Tatas alone control 22 concerns with a capital, roughly, of Rs. 30 crores. These include four cotton mills, four power companies, an oil mill, iron and steel, hotels, airways, chemicals and insurance concerns, etc. Andrew Yule & Co. control 52 concerns with a capital of Rs. 7 crores. 34 British trusts control about 400 industrial concerns with an approximate capital of Rs. 75½ crores. Half a dozen Indian trusts control some 50 concerns with Rs. 37½ crores of capital. There is a tendency of late to amalgmate existing trusts into bigger trusts. Thus, Martin & Co. took over the control of Burn & Co. which had 4 concerns under its management with a capital of Rs. 10 crores.

The control is exercised not only by a few trusts but in the last resort by a few individuals. In the jute industry 132 men are directors in 271 concerns. It has been said that 500 important industrial companies are managed by 2,000 directors. 1,000 of these directorships are held by 70 men. At the apex of the pyramid stand 10 men holding 300 directorships. This oligarchy in industry is a closed preserve. The son succeeds the father.

In India, thus, Merchant Capitalism has been replaced by Industrial Capitalism which in its turn is now being superseded by Finance Capitalism. The trusts which have recently been formed maintain close connections with banks and other financial houses by the simple methods of common directors. The directors of the trusts are found on banks, investment trusts and insurance companies. Some of the trusts have their own insurance companies which collect the savings of small men and

get them into their services, e.g. the Birlas have a number of insurance companies, Dalmias have their Bharat, Tatas have an insurance company and an investment trust. A full idea of the domination of finance capitalists can only be had by calculating the block account. To give one illustration, the Tata Iron & Steel Company which controls iron, coal, mica, silica mines and a number of industrial concerns, has a capital of Rs. 10½ crores but its block account is nearly Rs. 30 crores. The total assets of the concerns controlled by the Tatas exceed Rs. 100 crores.

A very important fact to be noted in this development of finance capitalism is that foreign interests have been assuming a Swadeshi facade by taking in some Indian interests. There has been growing inter-relationship between the industrial trusts and the Zamindars who represent feudal interests. Some trusts control Zamindars and some Zamindars have big holdings in the trusts e.g. the Maharaja of Durbhanga has substantial holdings in the British India Corporation and Octavious Steel Co. A majority of the foreign concerns have taken up some Indian Directors, e.g. the Jatia Brothers in the Andrew Yule & Co., Mukerjees in Martin & Co., etc. It must be noted, however, that the inclusion of some Indians among the shareholders or even as directors does not in the least affect the policy of the foreign managing agents so long as they retain control over the management in virtue of their managing agencies.[1]

Thus industrial expansion in India to-day continues to lie with a group of finance capitalists. The problem before us is whether we shall be reconciled to an industrial organisation of this kind, centralised in and controlled by a few individuals in the name of an equally small number of managing agencies, many of them representing British and foreign interests which have acquired advantages in the soil and its resources since the last hundred years and more ? Shall a free and self-governing India accept what it finds in the economic order of to-day, namely, an industrial organisation helped by finance capital at liberty to exploit both Indian labour and the larger class of consumers ? As Asoka Mehta observes, " The annual profits of the Tata Iron and Steel Co. equal the total revenues of the Government of Bihar. And it is just *one* of the Tata Concerns ! We demand democratic control over the finances of the Government of Bihar. Shall we let the industries remain under the unchecked control of their oligarchs ? "[2]

[1] Asoka Mehta, " India Comes of Age " and " The Heights of Simla," 1940, Bombay. These two pamphlets give very valuable facts and figures regarding the growth of finance capitalism in India. This section is largely based on them.

[2] " India Comes of Age ", p. 16.

If industrialisation is necessary, and if we are interested in fostering the further growth of industries in the larger interest of India as a whole, the finance capitalism and the concentrated control of our times should be replaced by the nationalisation of our key industries which would include mining, banking, communications, the heavy chemical and the iron and steel industries, and by socialised control of all other industries, by legislation limiting the rates of profits to the shareholders and absorbing the residue through taxation.

Future Policy

The industrialisation of India, thus, need not be a blind imitation of Western industrialism. The foundations of modern industries are both material and psychological. The development of industries is determined partly by command over natural resources, partly by scientific knowledge partly also by the habits and institutions which would enable the knowledge to be applied and the resources to be utilised. So far as scientific knowledge and technological methods are concerned, they are an international asset available to all. But industrialisation is not an ingenious contrivance, a hot-house exotic, which a country can import, irrespective of the environment in which the new technique is to function. What makes modern industry is not the machine but the intellectual potentialities and the institutional structure which make the utilisation of the machine possible. Do we desire industrialism on the Western model ? That there are large sections of the leaders of economic thought and of public life, who desire without qualification an imitation of Western capitalism on an individualistic basis, we readily admit. It is the attitude of this section that is reflected in parts of the Fiscal Commission Report. On many occasions, Indian publicists have grown eloquent over the magic wand of modern industry turning this land into a land of milk and honey.

Shall we endorse this attitude of blind faith in the virtues of capitalist industrialisation ? We have an indigenous culture which we would not readily throw over ; we have a conception of life proper to civilised man. If we desire industrialism, we shall take it on our own terms. We need not imitate. It will be a question of adaptation and adjustment. We possess a laborious and intelligent population, with unusual gifts for creative production. Owing to the abundance of human labour this labour is cheap. It is the very cheapness of labour that has partly retarded the introduction of machinery. What is more to the point is our deficiency in technical education. In fields like agriculture and engineering, one thinly populated State like Iowa, with one per cent of the population of British India, has a larger number of students. We have also a variety

of valuable raw materials. Already we have manufactures by modern methods of commodities which a generation ago were produced by hand. If we have been industrially backward that backwardness has been "in no way due to any inherent defects amongst the people of India but artificially created by a continuous process of stifling, by means of a forced tariff policy, the inborn industrial genius of the people."[1]

The character of our trade has hitherto been largely an exchange of raw materials and food stuffs for manufactured imports. Owing to the poverty of the millions of our agricultural population and the absence of communications, our internal market has been limited but capable of vast expansion with the improvement of transport and a rise in the standard of living. It is difficult to believe for example, that we cannot work up our raw cotton and silk, grow our own fruit and can it, multiply oil mills, supply our own railway materials and revive our own shipping industry. What we need for such a rapid industrial development is, in the first place, an immediate and intensified programme of roads and other means of communications. There can be no rapid industrial development in the absence of an adequate system of transport. The farmer will find new and more profitable markets within his reach. The growth of our industries will create a greater demand for agricultural products and the increased prosperity of our agriculture will in turn give rise to an increased demand for the products of our industries.

Better means of communication will have to be accompanied by a fiscal policy which will secure our struggling manufacturing industries against competition from abroad. Nobody doubts to-day that a tariff on manufactured imports is a reasonable method of fostering our own industries. What is equally important is the adoption of some settled policy of industrial development which would aim at definite objectives to be carried out over a period of years. That objective should be primarily the achievement of a balanced economic existence by making our country self-sufficient to the extent to which our economic resources make it possible.

Such a policy does not involve a mere imitation of the industrialism of the West. We must shake ourselves off from the assumption that mass production is the only method of promoting economic progress. We are a nation of farmers and artisans. 90 per cent of our population live in village surroundings. If we can assist these craftsmen by the improvement of their technique, by education, by more effective marketing of the

[1] Minute of Dissent, Fiscal Commission Report, p. 180.

commodities that they produce, at the same time that we foster large scale production, we shall avoid by these measures the mass unemployment and the compulsory idleness of millions maintained on doles which Western industrialism has brought with it.

We must not only think of developing our cottage industries but also consider how far we can avoid by legislation and executive control, the overcrowding under slum conditions, the prevalence of industrial diseases, and the exploitation of our factory population under unregulated private enterprise aiming only at profit. To-day, so far as large-scale industry is concerned, the easy-going employer of old who was associated in work with his men like a father with his family has been replaced by a tyrannical and greedy foreman who exacts as much in the shape of work as he can get from his employees. The casual domestic atmosphere of the old fashioned workshop with its gossip, smoking, chats with passers by and meals shared by workmen and master, has given place to factory routine and discipline without any of the compensating amenities in the shape of leisure, safety, sanitary surroundings and educational opportunities. It is, therefore, necessary to have industrial legislation for shorter hours of work, for the provision of proper sanitation, of better housing, and of wage standards which would not only secure physical efficiency but bring to human labour the opportunities for a full life.

We should plan our future industrial development on the basis of the service motive and not on the profit motive. We must not be hypnotised into the belief that our finance capitalists further the general welfare of our people, whilst they add to their profits by large-scale productive enterprise. We have passed the stage when we naively believed that the pursuit of profit contributed to the general interests of the consumer. Public welfare must not be a by-product of the profit making activities of the few. Protection in India of industries like sugar, iron and steel and textiles has involved substantial sacrifices on the part of consumers. If protection is to be continued and its scope is to expand, it must be controlled in the public interest. Recent experience has shown that the indigenous capitalist is in no way different from his counterpart in the West. If any thing, he is often worse. As Asoka Mehta points out, "From the workers' point of view, an Indian trust is often a worse master than a British trust. The condition of the workers of the Dalmia Sugar Mills, for instance, is inferior to that existing in the Belapur Mill of Brady and Co."[1] In the mad pursuit of profit, the Indian capitalist has

refused to take any lessons from the tragic experiences of industrial development in the West, and this, coupled with a *laissez-faire* policy and consequent apathy and indifference of the Government, has been responsible for the existence of some of the worst features of Western industrialism, which could have been easily avoided in our country.

The intense exploitation that is going on to-day in the name of war exigencies in the form of high prices and consequent huge profits is a clear indication of the "shape of things to come," if we allow the expansion of our finance capitalism to continue, without any social control. The frantic anxiety of our capitalists to-day merely to safeguard the stability of the sterling credits and their utilisation, without showing any concern whatever about inflation—soaring prices always mean huge profits—clearly reveals their "love" of the masses.[1] The inexorable logic of capitalism is already at work in our country.

We need a balanced economy by a properly devised industrial integration in which large-scale, small-scale and cottage industries can be dovetailed by means of a reoriented policy into agriculture, with a view to guaranteeing a minimum of decent life for all. A continuation of the present policy of drift will result only in the accentuation of the poverty of the masses and the glaring inequalities of wealth. Future industrial development in India can only be carried out with State help and so must be not merely State controlled but socially controlled. The hope for a better future and a decent standard of life for the masses lies in the industrial development of the future being "democratically organised and socially controlled." This implies, indeed, a State which is truly representative of the masses, in fact, of the entire community. Many of the world's troubles in the past have been due to the fact that the State has always been a mere instrument in the hands of a particular class—the owners of the means of production—explicitly or implicitly, with the consequence, that those who have been excluded from power have also been excluded from its benefits. The sort of a planned economy that we have envisaged is incompatible with anything but a truly democratic State which represents the collective good of the entire community.

[1] Cf. "Utilisation of Sterling Credits of India", Published by the Federation of Indian Chambers of Commerce and Industry, Delhi, 1943. It is significant that it contains no reference to the phenomenon of inflation.

CHAPTER XXIX

THE NATIONAL DIVIDEND

The Concept of National Dividend or Income

The *raison d'être* of all economic activities is the satisfaction of human wants and needs. Hence the economic welfare of an individual or a nation depends upon the availability of goods and services for consumption. The actual production of goods and services during a particular period of time is determined in turn by the national or social wealth. The term national or social wealth taken in wider sense includes not only the natural resources of a country but also the multitude of advantages which a country may possess in the shape of salubrious and bracing climate, in the grandeur and beauty of natural scenery, in the possession of navigation facilities like rivers and harbours, geographical location and the attraction of historical relics and monuments. But for practical purposes, it is usually defined as the sum total of the possessions held by the people of a country which are appropriable.

The social or national wealth is the fund or capital which is in parts measurable and in parts not measurable. On the other hand, the national dividend or income is the current of utilities that flows out of this fund or capital of social wealth. All the elements of the social wealth add to the annual flow of utilities ; but so long as there is no corresponding flow in terms of money, they are not taken into account in calculating the national income. All those elements of the fund are reflected in the national income which directly or indirectly increase the efficiency of production and result in a greater amount of goods and services, or in so far as they attract foreign tourists. This is due to the fact that the concept of national income is limited to those utilities in the form of goods and services which possess exchange value. Many utilities though they increase economic welfare have to be left out for the simple reason that they do not enter the orbit of exchange economy. Thus for example, as Pigou points out, houses and furniture enter into the national income if we hire them out, but not if they are given to us as a gift, though the utilities derived from them in either case remain the same. As a rule, all goods and services without corresponding flow of money payments are excluded ; and all those which are " customarily exchanged for money " are included in the computation of the national income. There is an

element of arbitrariness in all such computations. Thus the utility derived from a house, whether rented or used by the owner, is included in the national income, whilst the utilities derived from other durable consumption goods, like cars and books, clothes and crockery are excluded. It is argued that the occupation of a house is a service customarily exchanged for money, whereas this is rarely the case with the use of furniture, motor-cars, etc. It may be noticed, however, that more recently Swedish economists, like Lindahl, and American economists like Dr. King, have calculated the "imputed" income from the stock of durable goods of this kind in their estimates of national income. In the case of a country like India it is obvious that we cannot restrict ourselves to customarily exchangeable goods and services only for calculating the national income. Most of our agricultural produce is consumed by the producers themselves and a considerable amount of farm labour is labour rendered by the farmer's family.

The property principle cuts across the territorial principle. Thus the income from property held abroad, capital movements, income from services rendered outside one's own country, are all included in the national income. The question of what should be included and what should be excluded from an estimate of the national income has given rise to a number of theoretical problems on which considerable differences of opinion exist among economists.

The problem of inclusion of services is a controversial problem. Hungarian economists like Felner and Varga, and some Indian economists exclude services from national income, on the ground that there is no logical consistency in including some services and excluding others. Services rendered by domestic servants are included and raise the national income. On the other hand, services rendered by family members are excluded, for the latter are not paid for. The services rendered by mothers and housewives, are valuable and yield "a fund of annual satisfaction, which might be, but is not in fact, regularly measurable in money." These services are not included, but the same services when rendered by employees like governesses or ayahs and maids are included. A curious paradox consequently occurs like that mentioned by Pigou, namely, when a man marries his own housekeeper the national income diminishes. On the contrary, during war times, the national income increases because of the diversion of women to war work, their household work being done by domestic servants.

Another controversial point arises with regard to the inclusion of the services of public servants. Some economists exclude them from the

national income. As Professors Matolscy and Varga point out, "If the amount of the public administration increases, the national income does not therefore, become greater, just as it would not become smaller if the amount of public administration could be reduced, provided the prices of consumer's goods remain unchanged. This would only affect the distribution of incomes. . . . We do not dispute the usefulness of the public services ; but it seems to us that the results of their usefulness appear in the value of goods and services produced, and an inclusion of the cost of public services as such would mean double counting."[1] More recently, however, this view is not rigidly held ; and in most of the countries including Hungary certain services are included. As a matter of fact, in all countries State services and public authority employees are counted in the national income. It may be observed, however, that in a country like India with a top heavy administrative expenditure, the inclusion of the public services gives us a higher figure for the national income. In Soviet Russia, all non-material services are excluded from the computation of the national income.

So also the income received by individuals without rendering any actual services, namely, old age pensions, widows' pensions, money transfers like gifts, charities, war pensions, interest on war loans is excluded. But the interest on national debt for productive purposes or on municipal bonds and loans is regarded as a part of the national income, as it contributes to the value of the flow of services rendered by the State and local bodies. According to Mr. Colin Clark pensions to civil servants should be included, as they are a sort of postponed payment for services rendered.

Mr. Colin Clark defines the national income in the following terms: "The national income for any period consists of the money value of the goods and services becoming available for consumption during that period, reckoned at their current selling value, plus, additions to capital reckoned at the prices actually paid for the new capital goods, minus depreciation and obsolescence of existing capital goods, and adding the net accretion of, or deducting the net drawings upon stocks, also reckoned at current prices. Services provided on a non-profit-making basis by the state and local authorities, (e.g. defence, and elementary education) are included in the total at cost price ; but where these services are "sold" in the market (e.g. postal services, municipal tramway services) they are included on the basis of the charges made. Where taxation is levied upon particular commodities and services, such as the customs and excise duties

[1] "National Income of Hungary," 1938, p. 6.

on commodities or the entertainment tax, such taxes are not included in the selling value."[1]

Methods of calculating National Income

Three methods of calculating the national income have been suggested. (1) The subjective method, (2) the objective method, and (3) the mixed method. Sir Josiah Stamp has termed the first and the second methods as the income and the inventory method respectively. The subjective or income method is based on income-tax statistics. This has to be supplemented by the calculation of those incomes which are below the income-tax limit. Otherwise quite a good amount of income would remain uncalculated. Such a method is useful in countries where the proportion of income-tax payers is relatively large and where there is provision for taking an adequate and accurate wage census. The objective or inventory method, which is sometimes also called the "census" method, consists in the evaluation of the total aggregate of goods and services available for consumption at market prices. Such a method presupposes an accurate and detailed census of production. The danger of duplication is especially great in the use of this method. The combination of both these methods is called the mixed method.

The method adopted for estimating the national income of a country depends upon the kind of data available. At times one or the other method may be used. At other times both may be employed simultaneously to check results. Sometimes each of the methods may be used for part of the calculation and their summation gives the total income. But, as Bowley and Robertson point out, "The two methods do not furnish a check over one another over the whole field ; thus the services of cabinet ministers must be held to be worth the amount of their salaries since there is no other way of evaluating them."[2]

In our country the great majority of the population are agriculturists whose income does not fall within the purview of the income-tax.

[1] "The National Income," 1924-31, p. 1-2. Cf. Dr. Rao's definition, given in his "National Income of British India" : "The national income of a country is the money value of the flow of commodities and services, excluding imports, becoming available for sale within the period, the value being reckoned at current prices, minus the sum of the following items : (a) the money value of any diminution in stocks that may have taken place during the period ; (b) the money value of the flow of goods and services used up in the course of production ; (c) the money value of the flow of goods and services used to maintain intact existing capital equipment ; (d) receipts of the state from indirect taxation ; (e) favourable balance of trade including transactions in treasure ; (f) net increase in the country's foreign indebtedness or the net decrease in the holdings of balances and securities abroad, whether by individuals or the Government of the country."

[2] A Scheme for the Census of Production, p. 9.

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The income-tax, moreover, touches a very small section of the population. There is no all-India wage census. There is likewise no proper census of production and "it seems unlikely that the census of production method will ever be applicable over the whole even of the industrial field."[1] There are no figures available of the number employed and salaries paid to employees of the Government or Local Bodies. No statistics are to be found regarding domestic services. In the absence of all such data *the calculation of the national income of India seems to be an impossible* adventure.

The Utility of National Income Statistics

An important problem in economics is that of distribution, the problem of dividing the goods and services produced among the people for consumption. Economic welfare may be said to be measured by the amount of the national income. But economic welfare is a wide term, and it would be more accurate to speak of national income as affecting economic welfare. Thus as Haberler suggests, "Other things being equal, economic welfare is greater, if national income in greater; such other things that also affect economic welfare but are usually not considered as part of national income, e.g., the presence or absence of certain wants."[2] Thus, we find that in a community with poor health, more money has to be spent on doctors and though this may not impair the productive power of the community economic welfare is definitely less than it would otherwise be. We may not speak of real income being less, but we may say that a larger part of national income consists of the services of doctors. Of course, if the productive efficiency is impaired by poor health, national income will be affected to some extent; but *because of the inclusion of the services of doctors it would be less affected* than economic welfare. In the same way, to facilitate the smooth running of the economic system, money might be spent on "policing" the system to a greater or small extent. This involves the diversion of effort from the production of goods and services for consumption. "Thus there are a variety of factors which affect economic welfare, that is to say, make the situation more or less desirable than it would be in their absence, but do not or need not in general affect real income."

When we take the national income figure as an approximate index of economic welfare, we should take into account all the relevant factors involved, e.g. the extent to which the economy of the country is non-mone-

[1] *Ibid.*

[2] "National Income, Saving and Investment", in "Studies in Income and Wealth," Vol. II, 1938, pp. 140-141.

tary, the distribution of income (for inequality of incomes distorts value), age composition of the population, etc. National income figures are an index to the standard of living possible for a people and may become useful in estimating the taxable capacity. They are useful also for finding the trend of economic development or progress over a period of time. When we do so we have to take into account the changes that might have occurred in prices, in the habits of the people regarding food, drink, clothing and others things. Even then, we must not forget that "a community making a great economic progress may lack, and an economically unprogressive community may possess, in full measure the other values of life, such as sense of contentment and of hope for the future."[1]

As we have already mentioned, the definition of national income varies from author to author. The nature of the data on the basis of which national income calculations are made also varies. All these facts limit the value of national income statistics, in their use not only between country and country but also in the same country. When we use these figures to make comparisons between different years, we must not forget that they are average figures and do not throw any light on the distribution of the income. While making comparisons between country and country, we have to be careful not only regarding the extent to which the respective economies are monetary or non-monetary but also regarding the differences in prices, standards of living, habits, etc. Thus, it would be misleading to compare national incomes of countries with different standards of living and methods of production. In brief, we may say that statistics of national income are not of great value in international comparisons though under certain limitations they may be useful in making comparisons between different periods of time within the same country.[2]

National Income of India

Various estimates have been made of the national income of India, the earliest being that of Dr. Dadabhoy Naoroji for the year 1868 and

[1] Colin Clark, "Conditions of Economic Progress", 1940, p. 1.

[2] As Dr. Bowley points out, "It is very doubtful whether numerical comparison can safely be made between two countries; neither housing, clothing nor food are comparable; the importance of that part of income which is not wages varies greatly, and many things must be bought in one country which are unnecessary or are home-made, home-grown, or obtained freely in another. Nor should we compare industrial classes, such as workmen engaged in building or engineering or printing, in different countries, since methods and conditions of work vary enormously, unless we make very broad allowances for the possible effects of such variations." (The Nature and Purpose of the Measurement of Social Phenomena, p. 186).

the latest of Dr. Rao for the year 1931-32. The following table gives us the various estimates of *per capita* income of India.

Name of the Author	Year of Estimate	Year for which Estimate is made	Income in Rupees
Dadabhoy Naoroji	1876	1868	20
Baring & Barbour	1882	1881	27
Lord Curzon	1901	1897-98	30
William Digby	1902	1899	18
F. G. Atkinson	1902	1875	27.3
" "	1902	1895	35.2
Sir B. N. Sarma	1921	1911	50
Findlay Shirras	1924	1911	49
" "	1924	1921	107
" "	1924	1922	116
Shah & Khambatta*	1924	1921	74
Wadia & Joshi	1925	1913-14	44.3
Vakil & Muranjan*	1926	1910-14	58.5
Simon Commission Report*	1929	not mentioned	116
Central Banking Enquiry Report (Agricultural population only)	1931	1928	42
Findlay Shirras	1932	1931	63
Sir James Grigg**	1938	1937-38	56
V. K. R. V. Rao	1939	1925-29	76
" "	1940	1931-32	62***

Limitations of Estimates of National Income of India

The period covered by the different estimates ranges from 1868 to 1931-32.[1] During this period far reaching variations have occurred in the price level. The Indian price index number based on 1873 (including 39 unweighted articles but not including food grains upto 1897)

* For the whole of India. The remaining estimates are for British India.
** Budget Speech in the Central Legislative Assembly, April, 1938.
*** With a margin of error $\pm$ 6 per cent.

[1] Recently "A Student of Economic Research", on the basis of the estimates of Dr. V. K. R. V. Rao for 1931-32, calculated the *per capita* income in India for 1942-43 at Rs 142. Dr. Rao has questioned this estimate in an article in *Commerce*, pointing out various errors in calculation. Calculating in terms of the price level in 1931-32, Dr. Rao puts the *per capita* income in 1942-43 at Rs. 69, and adds, "there has been practically no rise in real terms in the national income *per capita* in 1942-43, as compared to that in 1931-32. There is no justification, therefore, for holding that Indian poverty has declined during the last 11 years to any significant extent." (*Commerce*, 26th February 1944).

showed the following variations :—

Year	Price Index Number	Year	Price Index Number
1873	100	1921	281
1900	116	1925	236
1913	143	1930	171
1920	281	1936	125

Indian statistics are largely a by-product of administrative exigencies and are far from reliable. "They are unco-ordinated," as Bowley and Robertson point out, "though in some branches careful work is being done, and determined efforts made to improve the accuracy and scope of information, in others they are unnecessarily diffused, gravely inexact, incomplete or misleading ; while in many important fields general information is almost completely absent. . . . The situation cries out for overhaul under the control of a well-qualified statistician."[1] They point out for example that "The rural price statistics are diffused. Bengal rice figures are held to be gravely inexact, birth and death returns are incomplete, and so published as to be misleading ; and there is no general information about wages."

In a country like India where 80 per cent of the people are dependent on agriculture, agricultural statistics play an important part in the calculation of the national income of India. But, "the statistics even of cropped products leave much to be desired, while statistical information about other important parts of agricultural income such as the output of animal husbandry are almost completely lacking, and statistics of industrial production are patchy in the extreme."[2]

It is also to be noticed that the basis of calculation of the various estimates differs from author to author. Dadabhoy Naoroji, Digby, Shah & Kambatta excluded services from their computation. The earlier official estimates added 50 per cent for non-agricultural income—definitely an over-estimate—to the total value of agricultural income. Mr. Findlay Shirras takes non-agricultural income at about 40 per cent of the agricultural income, while Shah & Khambatta take it at 10 per cent and Wadia & Joshi at 30 per cent. Mr. Findlay Shirras makes an allowance for seeds in calculating agricultural income. The later estimates show a great variation mostly due to fluctuations in the price level, which increased by more than 100 per cent during 1913 and 1920, and fell below the 1914 level after 1930. When we take into account these limitations and

[1] Op. cit. p. 1.

[2] *Ibid.*, footnote.

differences, it may not be unreasonably maintained that these estimates are not comparable.

The latest estimate namely, that of Dr. Rao, is perhaps more reliable in view of the fact that he has not only used all available data including village surveys, but supplemented them by his own personal *ad hoc* enquiries into the output of meat and milk and incomes of industrial wage earners, domestic servants and others. His study may be regarded as less inaccurate, especially when we remember that he makes allowance for a margin of error.

Details of National Income of British India[1]
(All fiugres are of net income.)

Description	Value in millions of of rupees	Margin of error per-centage
Value of agricultural output	5,927	—
Value of live stock products	2,683	±10
Value of fishing and hunting . ..	120	±20
Value of forest products ..	92	—
Value of mineral produce . ..	180	—
Incomes assessed to income-tax	2,161	—
Incomes not assessed to income-tax of workers engaged in industry	2,100	±17
Incomes not assessed to income-tax of workers engaged in service of the state, railways, posts and telegraphs . .	590	—
Incomes not assessed to income-tax of workers engaged in trade	1,233	±15
Incomes not assessed to income-tax of workers engaged in professions and liberal arts ..	416	±15
Incomes not assessed to income-tax of workers engaged in transport other than railways, posts telegraphs	283	±20
Incomes not assessed to income-tax of workers engaged in domestic service	325	±20
Miscellaneous items	780	±10
Grand total	16,890	± 6

From the above table Dr. Rao estimates the *per capita* income of British India in 1931-32 at Rs. 62. His previous estimate for the quinquennium 1925-29 was Rs. 76. If we make allowance for the fall in price level by 1931 this figure would be reduced to Rs. 49. But according to

[1] V. K. R. V. Rao, op. cit. p. 186.

him due allowance must be made for the greater fall in agricultural prices than in industrial prices and the prices of services. His corrected figure for 1925-29 in terms of the price level of 1931-32 is Rs. 55. It may be noted, however, that the figure for 1931-32 is based on more accurate enumeration of the miscellaneous items, and that the estimates of non-agriculturl income are based on more comprehensive data. He thinks that he had underestimated non-agricultural income in his calculation of the national income of India for 1925-29, and therefore his *per capita* figure of Rs. 76 for 1925-29 should be raised to Rs. 84.[1]

Dr. Rao considers that the three previous estimates of Dadabhoy Naoroji, Atkinson, and Shah and Khambatta can be revised so as to make them comparable to his own estimate of 1925-29 as below :—[2]

Author	Estimate	Year	Per capita income in rupees estimated at 1925-29 price-level
Dadabhoy Naoroji ..	23.5	1868	44.2
Atkinson ..	31.5	1895	55.0
Shah & Khambatta ..	88.0	1921-22	78.0
Rao ..	78.0	1925-29	78.0

Dr. Rao, however, admits that these different figures are not comparable in view of the different bases of computation. Whatever the inaccuracies of these estimates, one thing is strikingly revealed even by the most optimistic of these figures—and that is, the utter poverty of the Indian people. If we are not growing poorer, other people have relatively been progressing at a more rapid rate. The progress of Soviet Russia which at one time stood on the same level as India shows what can be achieved in a period of 25 years to improve the conditions of the masses by a properly planned economy aiming at the good of the community as a whole. Taking Dr. Rao's figure, the income per head per day in British India works out at a little less than 3 annas, a figure which might well justify the expression " appalling poverty " in connection with the economic condition of the people of India. How much more serious must the outlook be when we remember that this figure of 3 annas is an average which covers the millionaires as well as the masses.

Distribution of National Income

According to Dr. Rao, the urban income per head is more than thrice as high as rural income, the rural income being 51 rupees and urban

[1] *Ibid.*, preface, p. viii.

[2] " An Essay on India's National Income 1925-29 ", p. 157.

income being 166 rupees. There is a real difference in the economic condition of people living in towns and in the villages. And 80 per cent of our people still live in villages. Among the urban classes themselves there are vast inequalities. Nearly one-half of the urban income belongs to less than one-tenth of their total number. Even among the comparatively well-to-do with an income of over Rs. 2,000 per year, 38 per cent possess only 17 per cent of the total income and a little more than one per cent claim as much as 10 per cent of the total income.[1]

A recent unofficial estimate of the distribution of income in India for British business gives us a revealing picture of the plight of the masses in India :—[2]

Range of Incomes of Indian Households

Number of Households	Income in Rupees		Equivalent in £
6,000	Over	100,000	7,500
270,000	Average	5,000	375
250,000	„	1,000	75
35,000,000	„	200	15
Remaining	„	50	3¾

These figures, evidently calculated to explore the possibilities of British business in the Indian market are not likely to be unduly optimistic.

International Comparisons

Mr. Colin Clark, an authority on national income, considers it possible to make comparisons of economic welfare at different times, places and countries by a suitably devised formula. In his "Conditions of Economic Progress" he institutes a comparison between the real *per capita* income of the countries of the world by reducing the different estimates of the national income of these countries to the same price level, taking into account all the different factors. The real income is expressed in the form of international units per head of the working population. The I.U. has been defined as "the amount of goods and services which one dollar would purchase in the U.S.A. over the average of the period of 1925-34," and all the data are reduced to this standard.[3] The following table shows the average real income per head in international units over

[1] Op. cit. pp. 188-190.
[2] "The Indian Market" in the 'Times Trade and Engineering', India Supplement, April, 1939.
[3] "Conditions of Economic Progress", pp. 35 *et seq.*

the period 1925-34 :—

Country	I.U.'s	Country	I.U.'s
U.S.A.	1,381	Czechoslovakia	455
Canada	1,337	Greece	397
New Zealand	1,202	Finland	380
Great Britain	1,069	Hungary	359
Switzerland	1,018	Japan	353
Australia	980	Poland	352
Netherlands	855	Italy	343
Eire	707	Yugoslavia	330
France	684	U.S.S.R.	320
Sweden	653	South Africa	276
Germany	646	Bulgaria	259
Belgium	600	Rumania	243
Austria	511	Lithuania	207

He also gives us the figures for the following countries which are rough estimates :—

Country	I.U.'s	Country	I.U.'s
Argentina	1,000	Portugal	300-400
Chile	500-600	Egypt	300-390
Spain	500-600	British India	200
Brazil	400-500	China	100-120

Whatever the deficiencies in the accuracy of the above estimates, one fact is clear that British India along with China stands at the bottom of the list. Comparing India with countries like Japan, Bulgaria and Yugoslavia where agricultural methods are similar and there are no wide differences in the ways of living, one finds that India has the lowest real income per head. We have to go a long way yet before we can reach the standard of life of even the comparatively backward countries of Europe like Poland or Italy.

We have already referred elsewhere to the growing inequalities among the agricultural population and the equally significant increase in the number of the agricultural proletariat. We have also referred to the conditions of living of the industrial workers in towns. When we add to this the fact of deficient food supply, the picture becomes more gloomy. Millions are semi-starved and most of our population lives on the margin of subsistence. We have a high infant mortality, malnutrition, low vitality and nothing by way of a reserve to fall back upon in times of scarcity or in cases of disasters like floods. The problem before the future National Government will be a problem of equitable distribution as much as a problem of efficient production. What such a National

Government can achieve in the shape of making a full life possible for the teeming millions of India will depend upon the extent to which it will realise the need for a socially controlled plan for the regeneration of our agricultural and industrial economy.

CHAPTER XXX

PROBLEMS OF CONSUMPTION

The Place of Consumption in Economic Theory

Economic theory in the eighteenth and nineteenth centuries neglected all questions of consumption. Economists, while generally recognising that consumption is the sole end of production, regarded habits of consumption as a private affair of the individual, except in so far as they affected the production of wealth. They started from market demand to an examination of the laws of production, distribution and exchange of economic goods. Even so late a writer as Taussig regarded consumption as "an uncertain group of topics in which it is difficult to get beyond platitude or exhortation."[1] The mercantilism of the 18th century led to the view entertained in the 19th century by *laissez-faire* writers that production, with the pecuniary incentives behind it, was a crude test of economic welfare. Even when they discussed consumption, it was in connection with the distincton between productive and unproductive consumption, or the relation of thrift to capital accumulation, or the economic effects of the consumption of luxuries.

Consumption acquired a new prominence in economic theory with the rise of socialist thought which raised fundamental issues of justice and fairness in distribution and involved a reconsideration of the problems of economic welfare. With the development of the marginal theory of value, consumption assumed a psychological meaning which at the same time became an integral part of the price analysis. The utility theory gave rise to the idea that economic welfare was a matter of "maximum satisfaction," and was linked up with reform movements. During the last war, as during the present, the consumer became the hero whose frugality and thrift would win the war.

Consumption, in fact, should be regarded as the beginning and end of the economic process. Human wants are the springs of all activity, and therefore of economic activity. Man has wants and he makes the efforts necessary to satisfy them. But consumption is also the end of

[1] Taussig, "Inventors and Money Makers", p. 9.

all activity. When wealth has been produced, it can have no other function or purpose than to be applied to the satisfacton of human wants.

A theory of consumption involves standards of living. Organised scales of values direct our activities as consumers, and are manifested in the ways in which we feed, clothe and house ourselves, as well as in our amusements. A "standard of living" is not the same as the actual manner of living of a class or a community. It is an attitude towards or *a way of regarding a given mode of living*. It is the "scale of preferences," the plan for material living, which directs our expenditure into certain channels, "and satisfies our sense of propriety and decency as to mode of living."[1] Apart from this conception of the standard of living, there is also involved in a theory of consumption a descriptive study of the proportions of a family's income spent on consumers' goods like food, clothing, etc. Family budgets of this kind enable us to determine whether the manner of living of any class corresponds to a previously formulated conception of a minimum standard of subsistence, health and decency.

Analysis of the Standard of Living

When we analyse the factors that enter into the standard of living, we find three major elements : (a) there are those elements which are essential as possessing survival value for individual life—food, clothing, shelter, and medical services ; (b) the "conventional necessities" or "prestige values" which indicate the existence of social groups and have survival value for the group, like a clergyman's coat, or the academic cap and gown. They are symbols to designate social status, and enable the individual to identify himself with the group ; (c) there are those further elements which represent the group concept of welfare, including values which mark the peculiar bias or interest of the group, whether, puritanic or commercial.[2] It is obvious from such an analysis that where the income of any class or nation barely suffices for the satisfaction of the essentials of physical existence, it would be misleading to talk of a standard of life. It would be more appropriate, as in the case of India, to refer to a "standard of existence." Our contention is borne out by the tables of family budgets which we have incorporated in our chapters on agriculture and industries. A study of these tables shows that the majority of our population live below a subsistence standard. Under these circumstances, statistical comparisons of the standard of living in India with that in other countries by a reference to *per capita* income and consumption of industrial commodities and pro-

[1] Hazel Kyrk, "A Theory of Consumption", p. 175.
[2] *Ibid.*, p. 212.

ducts are bound to be misleading. Even a " standard of existence " would involve the adequate satisfaction of such primary needs as food, shelter and clothing, which is lacking in the case of millions of our people. In examining the " standard of existence " in India, the first issue that arises is the relation between our food resources and the population.

Population and Food

In no country is it easy to determine the exact amount of food produced from year to year, and in India the difficulties are exceptionally great. The unreliability of the statistics of agricultural production in India is due to a number of causes. In the first place, there are no reliable statistics for two-fifths of the total area of our country which is included in the Native States. For such area in the Indian States for which statistics are available, the standard of accuracy is much below the standard of British India. In the second place, about 20 per cent of the area in British territory is under permanent settlement and the figures of agricultural production are quite inadequate for determining whether the food produced in this area is increasing in proportion to population. The population of the area under permanent settlement is about 35 per cent of the population of British India, and the Agricultural Commission admitted that the information in the permanently settled areas is collected through reports which are " often mere guesses and are not infrequently demonstrably absurd guesses."[1] Thirdly, the quantities of food produced are still less accurately determined than the amount of the acreage under crops. As Sir John Russell observes, the published figures are obtained by the use of an equation, namely, production area × standard out-turn × seasonal condition factor. " The standard out-turn is not the average yield over a number of years but the model value over a long period, and so is unaffected by high or low yields of particular years. Unfortunately the standard out-turn has not been redetermined for a long while, and it is very desirable that this should be done again. The seasonal condition factor can never be much more than a guess."

Agriculture being the most important source of wealth of our people, these defects make it impossible to estimate accurately to what extent our resources keep pace with our growing population. Sir John Russell categorically observes by reference to the tables which we reproduce below, that " the official figures as they stand show that the acreage under food crops unlike that under cash crops has not kept pace with the growth of population ; on the contrary there is an actual fall in the acreage per head."[2]

[1] Report, p. 527.
[2] Report, p. 15-16.

Comparing the areas of land under different crops between 1915-16 and 1930-31 in British India, he gives us the following summary, along with another table :—

Summary	Thousand acres
Increase in net area sown	8,360
Increase in food crops	4,132
Increase in non-food crops	4,960

Area per head of population in British India

	1903-04 to 1907-08	1908-09 to 1912-13	1913-14 to 1917-18	1918-19 to 1922-23	1923-24 to 1927-28	1928-29 to 1932-33
Net area sown acres per head	0.883	0.906	0.918	0.879	0.868	0.841
Area under food crops per head	0.829	0.862	0.873	0.833	0.803	0.785
Acres under food crops per head omitting sugar	0.818	0.852	0.862	0.822	0.792	0.774
Acres under non-food crops per head	0.053	0.043	0.045	0.045	0.065	0.057
Population in millions	237.6	243.8	245.3	246.9	259.2	271.5

Thus, while the population during the last 30 years increased by 34 millions, the acreage under food crops increased by 4 million acres. It is difficult to ascertain how far the total production of food has kept up with the population. The following table which we reproduce from Dr. Mukerjee's book shows to us the trend of food production in respect of quantity and quality in relation to population increase :—[1]

Index numbers of variation of population and food supply in India[2]

Average of five years	Population	Food Production Weighted	Food supply available for consumption (unweighted)	Excess or deficit of food supply index number in relation to population index number.
1910-11 to 1914.15 (base)	100	100	100	100
1920-21	99	99	99	0
1925-26	101	121	113	+12
1930-31	107	126	123	+15
1935-36	121	115	122	+ 1
1936-37	123	123	128	+ 5
1937-38	125	110	118	— 7

[1] R. Mukerjee, "Food Planning for 400 Millions", p. 18 ; also his brochure on the "Food Supply", Oxford Pamphlets, 1942, Cover p. 3.

[2] Weights are assigned according to protein values. Food supply available for consumption is computed after deducting exports, seeds amounting roughly to 1 million tons per every 200 million acres of food grains and 10 per cent wastage, and adding imports of sugar and cereals.

The difference between the indices for population and food supply is gradually becoming narrower, as will be seen from the table, and this is a definite indication of deterioration in the food position. There is a tendency towards decrease in the annual exports of food crops from India. This may be offset by the import of food purchased with the help of our cash crops.

There has, however, been an actual deficit of 15 per cent in the aggregate food production in the year ending 1937-38, while the food supply actually available for consumption diminished by 7 per cent as compared with 1910-15. Mukerjee calculates, assuming that the daily caloric requirements of the average Indian are 2,800 calories, which allows for 200 calories to be wasted in the kitchen and the table, India has now fallen short of food for 48 millions on an average. The average deficit is 423 calories in each man's daily ration. The deficit in food supply is indicated by the following figures :—[1]

India's population in 1935	377	millions
India's food needs	321.5	billion *calories*
India's food supply	280.4	" "
India's food shortage	41.1	" "

Still more significant is the fact that there has been not merely a deficit in the quantity of food production in relation to the increase in population but a steady deterioration in the quality of the food grains consumed by the people. There has been during the last thirty years a steady increase in the production of the inferior food grains like jowar, barley and bajra at the cost of rice and wheat which have greater nutritive quality, as can be seen from the following table :—[2]

Index Numbers of the Output of Cereals showing Percentage variations

Superior Cereals	1910-15	1915-20	1920-25	1925-30	1930-35	1935-38	1910-38
Rice	100	114.0	108.4	107.2	110.2	103.5	+ 3.5
Wheat	100	96.2	93.4	93.0	97.8	104.2	+ 4.2
Inferior Cereals	**1910-15**	**1915-20**	**1920-25**	**1925-30**	**1930-35**	**1935-38**	**1910-38**
Jowar	100	157.4	167.0	210.8	207.8	209.7	+109.7
Barley	100	224.2	202.6	172.2	173.4	157.1	+ 57.1
Bajra	100	114.0	105.0	126.0	125.0	125.0	+ 25.0
Maize	100	114.0	100.0	106.0	112.0	105.0	+ 5.0

[1] "The Food Supply", Oxford Pamphlets, op. cit. p. 13.
[2] *Ibid.*

The whole of the inferior type of cereals serves the purpose of a self-subsisting economy of a population proverbially poor ; what is more significant from the point of view of the food problem in India is the steady deterioration in the quality of the food grains.

It is worth while finding out the reason for this change which has an immense bearing on the health and vitality of the people. There can be no doubt that one factor in the situation is the comparative cost of cultivation of wheat and rice, on the one hand, and crops like jowar and bajra on the other hand. Another factor is the increasing demand for the cheaper cereals by a population which has been living on the margin of subsistence. This is likewise evidenced by the fact that the food composition of the cultivators is determined by the proportion of cereals grown from season to season—rice and maize being used in September to November, a mixture of jowar and barley with gram or with bajra in the months between December and April, wheat being used in the mixture between May and August. There is still another factor to be taken into account, when we face this problem of the relatively larger acreage under inferior cereals. The growing dependence of a population, used to a self-subsistence economy in the past, on world prices and the fall in the price of the staple food crops in the world market largely influence the trend of cultivation—a trend that may be emphasized by the frequent failure of crops and recurrence of droughts.

It is evident that the food position of India is relatively worse, judged by the proportion between the food production and population and also by reference to the nutritive quality of the cereals. Sir John Russell arrives at practically the same conclusion when, on the basis of a table reproduced below, he concludes that for most provinces the production per head per day of all grains including pulses and oil seeds is twenty to twenty-one ounces. This would give a daily calorie value of 2,000 or 2,500 according to the proportion of oil seeds taken and a nitrogen supply of about 12 grams daily.

Province	Total grain in million tons	Population in millions	Total grain ounces per head per day	Nitrogen grammes per head per day
Assam ..	1.6	8.6	18	7
Bengal ..	9.3	48.9	19	7
Bihar and Orissa ..	9.0	36.7	24	11
Bombay	6.1	20.6	29	16
C.P. ..	4.8	15.5	30	15
Madras ..	10.4	46.7	22	11
Punjab .	5.0	23.6	21	12
U.P. ..	10.6	46.7	22	13

Speaking generally Dr. Aykroyd, the Director of Nutrition Research Laboratories in Coonoor, South India, says in an article contributed to the *Indian Journal of Social Work* in 1942, "To the nutrition worker the food situation in India is thoroughly unsatisfactory in normal times. A nation-wide 'grow more food' campaign would have been appropriate in 1938 before the war started and will be appropriate in 1945 when, let us hope, the war will be over. The majority of the population lives on a diet far remote from the most moderate standards of adequate nutrition. If India depends entirely on what she can herself produce, a very large increase in the production of various foods is necessary to raise the existing standard to a satisfactory level. Some of these may be roughly indicated as follows : Cereals, 30 per cent increase ; pulses, 100 per cent ; milk and milk products 300-400 per cent ; meat, fish and eggs *several hundred per cent ; vegetables, particularly green leafy* vegetables, 100 per cent or thereabouts."[1]

The relation between the growth of population and increase in food production, it has been said, can be more accurately gauged by approaching the problem regionally. Though the whole of the country is predominantly agricultural, agriculture is carried on under diverse conditions. A regional approach is, therefore, a useful supplement to the study of conditions on an all-India basis. There are regions which yield a single crop in a year, while there are others that yield four crops annually. An attempt has been made in a recent publication to study the question from the point of view of separate regions, which clearly shows that, except in the three regions of Brahmaputra Valley, Gujarat and Orissa there has been no increase in area under cultivation corresponding to increase in population.[2]

Under ordinary circumstances, an increase in the economic opportunities of a region is generally followed by an increase in population and vice versa. But in the case of India, we seem to have reached a stage when without any tangible evidence of an increase of economic opportunities agricultural or industrial, there is a definite trend towards increase of population upto the limit of actual starvation.

[1] It is interesting to compare the increase in agricultural production envisaged by the scheme proposed by the Special Committee of the Imperial Council of Agricultural Research, popularly known as Sir Kharegat Scheme. The proposed increase is 10 per cent in cereals, 20 per cent in pulses, 20 per cent in fats and oils, 20 per cent in fruits, 50 per cent in vegetables, and 300 per cent in milk. The increase will require about 15 years, and it must not be forgotten that during the period the population will also have increased, a factor which obviously does not much worry the planners of the scheme.

[2] N. V. Sovani, "Population Problem in India—A Regional Approach", 1942.

There is ample evidence that whilst the population has gone on increasing during the last twenty years, both the area under agriculture and the volume of production of food grains show a tendency to decline. The following table shows the changes in Indian agriculture (excluding Burma) between the depression and the outbreak of the present war :—[1]

	in millions of acres		
	1929-30	1936-37	1939-40
Net area sown	210.38	213.72	209.96
Total area irrigated	49.54	50.16	54.95
Area "not available for cultivation"	93.12	93.54	89.31
"Other uncultivated land excluding fallow"	95.60	92.23	97.19
Fallow land	45.78	44.84	47.33

Though the net area sown in 1939-40 is roughly the same as in 1929-30, there is a marked fall as compared with 1936-37. This decline has occurred, whilst at the same time there has been an increase in the area under irrigation. Shall we say that considerable tracts of land on the margin fell out of cultivation ? At the best, Indian agriculture during these ten years shows no signs of extension and progress, whilst population has been increasing.

Taking again the volume of food grains and pulses during the same period, the situation would appear to be worse than that indicated by the acreage figures :—[2]

Yield of food grains in thousands of tons in British India (excluding Burma)

	1929-30	1939-40	Increase or Decrease
Rice	25,460	24,550	—
Wheat	8,925	8,925	Stationary
Barley	2,293	1,981	—
Jowar	5,050	4,512	—
Bajra	1,998	2,020	+
Maize	2,409	2,118	—
Gram	2,975	3,085	+
Total	49,110	47,191	—4 per cent

Reading this table in the light of the following corresponding table of the acreage under these food grains, the situation would appear to be even more serious :—[3]

[1] *Indian Finance*, August 7th, 1943, p. 261.
[2] *Ibid.*, p. 262.
[3] *Ibid.*

Area under food grains in thousands of acres in British India (excluding Burma)

	1929-30	1939-40
Rice	66,538	70,101
Wheat ..	24,700	26,128
Barley	7,027	6,101
Jowar	22,742	21,677
Bajra .	13,291	13,362
Maize ..	6,330	5,766
Gram	11,255	11,690

Comparing the yield of wheat with the acreage under wheat, we find that in this decade the acreage shows a considerable increase, whilst the yield remains the same. In the case of rice, whilst the acreage has increased, there has been a decline in yield. When we remember that rice and wheat are the two most important elements in the diet of the people, the decline in the yield per acre may well be regarded as a matter for grave concern.[1]

These conclusions are confirmed by another source of evidence collected by Sir John Megaw who undertook an elaborate enquiry in 1933 in connection with public health aspects of village life in India. A questionnaire was distributed among several hundred village doctors in villages selected from every province of British India. The enquiry revealed that the average size of an Indian family was just about 5.5. The report drew attention to the fact that the conclusions would have been more unfavourable, if the enquiry had been undertaken by men with European experience. In many cases in which the food supply was reported to be sufficient, evidence in reply to other questions indicated that this was far from being the case. But even on the low standards adopted by the doctors, the enquiry revealed that only 39 per cent of the people were well-nourished, 41 per cent poorly nourished and 20 per cent were badly nourished. Bengal with its densely populated villages had 47 per cent poorly nourished and 31 per cent badly nourished. The position was still worse in Bihar and Orissa, where 60 per cent of the villages were densely populated.

The conclusions of the Medical Survey are significant: (1) India has a poorly nourished population. (2) The average span of life is less than half of what it might be. (3) Periods of famine or scarcity of food have been occurring in one village out of every five during a ten-year

[1] Dr. Burns, in his note on "Technological Possibilities of Agricultural Development in India", states that the production of food has lagged behind the rapid growth of population during the last three decades, and that although there is a slightly rising trend in acreage from 1927-28 to 1940-41 there is no general rise in food production.

period in which there has been no exceptional failure of the rains. (4) Inspite of the excessively high death rate, the population has been increasing much more rapidly than the output of food and other commodities. "It is clear," said the Report, "that the growth of population has already begun to outstrip the increase in the production of the necessities of life, so that even the existing low standards of economic life must inevitably become lower still, unless some radical change is brought about. The outlook for the future is gloomy to a degree, not only for the masses of the people who must face an intensified struggle for bare subsistence, but also for the upper classes whose incomes depend on the production of surplus of crops and other commodities. If the entire produce of the soil is needed to provide for the urgent needs of the cultivators, nothing will be left for the payment of rents or revenue, nothing to exchange for other commodities or even for the purchase of railway tickets, and the whole social structure of India must inevitably be rudely shaken if not completely destroyed."[1]

If it is suggested that during the last two or three years, the 'grow more food' campaign has substantially increased the acreage under food crops and the total production of cereals, we have to remember that there are to-day over 500,000 refugees, not to speak of war prisoners, and a phenomenal number of foreign troops in India. There are huge armies to be maintained and men in military service require and actually consume more food than civilian workers. The price of food has risen far beyond the general rise in the level of wages. The war, therefore, instead of improving the situation with regard to the consumption of food in India has made it worse.[2]

[1] Quoted by Shiva Rao, in "The Industrial Worker in India," pp. 61-62.

[2] Mr. J. D. Tyson (Secretary, Education, Health and Land Department), in the Legislative Assembly meeting on 9th November, 1944, gave the following figures. The total acreage under all food grains in the three years before the war was 195 million acres. After two years progress of the Grow More Food campaign it was 206.3 million acres. The area under rice increased from 74 to 80 million acres in 1943-44. The pre-war average of all food grains yield was 55¼ million tons. It increased to 61 million tons in the second year of the campaign. The rice production, however, declined to 24.8 million tons from 26.5 (the three years pre-war average) in the first year of the campaign, in spite of the increase in area by over a million acres, "owing to natural calamities," but increased to 30.6 million tons in the second year of the campaign. The yield of rice is the highest on record. It is 4 million tons over the production of the pre-war period and it is twice the figure we used to import from Burma." (*Indian Information*, December 1st, 1944). And yet in the very year, 1943, to which the same official organ refers, Bengal passed through a famine which took a toll of 3½ million lives, according to the report of the Anthropological Department of the Calcutta University, not to speak of famines in other parts of India like Bijapur, Cochin and Travancore. The subsequent outbreak of epidemics, recorded or unrecorded was only the aftermath of famine.

Nutrition Problems

In the last twenty years, more than 50 surveys have been made of the diet of the people in different parts of India and these surveys show more or less uniform results. These surveys show that rice is the staple food in Madras, Bengal, Assam, Bihar and Orissa. 90 per cent of calories of peasant diet are derived from rice. Green leafy vegetables per day in the families studied were one-third of an ounce per "man value." One-half of the families drank no milk. 28 per cent drank more than one ounce per head per day. Animal protein taken in was very low. The average total calories were found to be insufficient to meet normal requirements.

Allowing a basal metabolic rate of 54 calories per hour, expected for average height and weight, and 8 hours moderately hard work, we get, we are told, the following total normal requirements :—

		Calories
8 hours at 54 calories	..	432
8 hours work at 180 calories	..	1,440
8 hours sitting at 86 calories		668
	Total	2,560

It was also found as the result of these surveys that women and children get a lower proportion of the calories of the family's food than is allowed by the League of Nations Scale.[1]

Some Surveys

A diet survey of some families and institutions in Calcutta was made by Drs. Wilson, Bashir Ahmad and D. N. Mullick, in 1936. It included ten middle class Bengali Hindu families, a male hostel and two orphanages. The survey showed that all the diets analysed fell below Western standards. They were all round deficient diets. The deficiency was marked in certain directions, namely, animal protein, animal fat, dairy products and calcium. These deficiencies were more marked in the children's institutions. The doctors observe, "Assuming that the Western standard is not rigidly applicable in India and this is probable in the case of fat, the degree of divergence between the figures collected here and the accepted standard is too great to be dismissed, as falling within the range of what constitutes a good diet or what the human species can adapt itself to." They arrived at the following conclusions : "(1) The diets analysed in this survey are poor in total and animal protein, total and animal fat, calcium, and to a lesser extent phosphorus. (2) The minimum cost in Calcutta at current prices to-day of a diet which approaches to within a reasonable degree the Western standards is some

[1] Marrack, "Food and Planning", 1942, p. 115.

where in the region of annas 4.4 to 5.6 per man value per day. Under present conditions, this is beyond the means of most."[1] The doctors pointed out that an increase in the consumption of milk products would improve the diets and would be the easiest to introduce and in the long run the cheapest. They also recommended increased consumption of *ata* in the rice-eating districts.

Similarly, Drs. Aykroyd and Krishnan of the Nutrition Research Laboratories at Coonoor undertook diet surveys in South Indian villages in 1936. They investigated into the diet of 44 families including 274 persons over a period of 20 days. They divided the families into four groups and they found that the calorie intake in groups I and II was definitely insufficient and in group III, though the mean approached the standard requirement, it concealed undernutrition in a considerable proportion of families. They found, therefore, that one-third to one-half of the group of 44 families studied did not consume enough food during the period of investigation. They also found judging by conventional standards that the protein and fat intake was low. There was a complete absence of protein and fat of animal origin. The calcium intake fell below conventional requirements in groups II, III and IV. Drs. Aykroyd and Krishnan observe, " It is difficult to say how far the families studied were typical of South Indian peasants in general. . . . It is clear that if group I, which may without exaggeration be described as half-starved, is representative of a large group, the problem of under the malnutrition in South India is more serious than has yet been realised."[2]

Another survey connected with the state of nutrition of school children in South India carried out by Drs. Aykroyd and Rajagopal revealed that in South India the diet of school children is so inadequate in quality, judged by generally accepted standards that diet deficiency must far outweigh other factors as a cause of malnutrition. Out of the 1,900 school children in three South Indian towns who were the subject of investigation, 14 per cent carried symptoms of food deficiency disease. 6.4 per cent showed phrynoderma, 9.2 per cent angular stomatitis and 3.8 per cent Bitot's spots. It was also observed that children living in the temperate climate of Coonoor had no advantage as regards physique over children living in the tropical climate of Mettupalayam and Calicut.[3]

Dr. Marrack in a recent work gives us the following table showing the chemical composition of Indian diets and also the percentages of

[1] *Indian Journal of Medical Research*, Vol. XXIV, 1936-7, pp. 171-2.
[2] *Ibid.*, pp. 667 *et seq.*
[3] *Ibid.*, pp. 419 *et seq.*

children with evidence of vitamin deficiency :—[1]

Calories and Gm. of Protein, Fat and Calcium in Indian diets per "man value" per day

	Calories	Protein	Animal protein	Fat	Calcium
South India, Trichinopoly	2,399	62.7	—	26.9	0.31
Assam Coolies	2,181	58.8	2.7	12.0	0.173
Nilgiris Tea Plantation	2,140	43	—	18.0	9.19
Travancore „	2,380	32	—	21.0	0.46
Paharis ..	1,368	37.3	0	3.5	0.16
Santals .. .	2,178	76.0	1.7	13.9	0.47
Calcutta, Well-to-do	2.787	94.0	47.7	86.5	0.79
Hindu, urban Punjab ..	2,319	69.8	9.9	49.2	0.77
Hindu, rural „	2,720	81.4	8.5	53.1	0.81
Sikh, urban ..	2,776	87.9	16.0	59.2	1.00
„ rural ..	2,904	89.4	13.0	58.6	0.99

Per cent of Children with Evidence of Vitamin Deficiency

	Bitot's spots	Angular Stomatitis	Phrynoderma	Xeroplethalmia
Mayanur (S. India)	3.8	6.6	0.3	—
Coonoor „	2.1	8.7	8.6	—
Calicut „	8.2	10.1	0.5	—
Assam Coolies boys	2.4	very few	very few	15.0
Calcutta Well-to-do boys	0	0	0	0
Santal bays	—	1.5	6.8	3.1
Paharia boys (Punjab)	—	0	27.8	2.8

Balanced Diet

Attention is also being directed in our times to the necessity of a balanced diet. Sir Robert McCarrison has shown by patient study how the stamina and physique of the rice eating population of Bengal and Madras are far below those of the Northern people who live on wheat, milk, vegetables, fruit and meat. Dr. Aykroyd enables us to compare a typical "ill-balanced" Indian diet with a well-balanced diet which approaches closely the League of Nations' standard :—

Ounces per consumption unit per day

Food	Ill-balanced diet	Well-balanced diet
Cereal ..	23	17
Pulses ..	0.5—1.5	3
Milk ..	none or negligible amount	8
Leafy vegetables ..	0.5—1.0	2
Non-leafy vegetables ..	2.0—5.0	4
Fruit ..	negligible	2
Vegetable Fats & Oils	less than 1.0	2
Fish, Meat and Eggs ..	0.5—1.0	2—3 if no milk is included

[1] Marrack, op. cit., p. 116.

Approximate Chemical Composition (assuming the cereal to be milled rice)

	Ill-balanced diet	Well-balanced diet
Calories	2,600	2,600
Protein (G)	55	80
Fat (G)	25	70
Calcium (G)	0.025	1.0
Phosphorus (G)	0.90	1.20
Vitamin A	1,100	3,000
Vitamin C (M.G.)	60	150

Both the diets have the same calorie content. 2,600 calories represent approximately the daily energy requirements of an Indian male. But the more varied well-balanced diet, containing less cereal, and more of everything else, is infinitely more satisfactory in quality. Dr. Aykroyd maintains that whereas the ill-balanced diet will cost Rs. 2 to Rs. 3 per adult per month, the cost of the well-balanced diet may be established at Rs. 4 to Rs. 6 per adult per month. Taking a family to consist of four, the annual expenditure on a satisfactory diet will be Rs. 240. and more if allowance is made for 8 ounces of milk daily on the part of the children.

If we compare these figures with actual income levels in India, so far as they can be ascertained, the income of some of the wage earning groups in industries and in urban areas falls below the standard laid down by Dr. Aykroyd. In the case of agricultural families, it is difficult to determine the real income on a monetary basis. A number of attempts have recently been made to assess agricultural incomes in terms of money in village groups. In Bengal, the average total annual income per family has been estimated at Rs. 150. Dr. Aykroyd himself suggests Rs. 100 per year as the family income in a group of very poor rural families in Madras. The Punjab Public Health Department in "an enquiry into diets" in 1939 arrived at a figure of Rs. 125 in families in the Kangra Valley. The Closepet Health Training Centre in 1935 undertook an analysis of net income per family in a rural area in Mysore with a population of about 50,000. The survey included 11,142 families giving a membership of about 5 to the family :—

Number of families	Percentage of all families	Family income per month
2,597	23.3	Rs. 0— 5
3,417	30.7	„ 5—10
2,344	21.0	„ 10—15
1,142	10.3	„ 15—20
968	8.7	„ 20—30
559	5.0	„ 30—40
115	1.0	„ 40—50

In 53 to 54 per cent of the families, the estimated annual income of the family was below Rs. 120. A well-balanced diet of the kind indicated by Dr. Aykroyd is evidently far beyond the means of a large section of the population. The analysis of budgets of working class families in cities and of agriculturists that we have given in the sections on industries and agriculture bears out the view that large proportions of the Indian population in towns as in the villages are underfed.

Dr. Aykroyd in an article contributed to the *Indian Journal of Social Work* referring to the problem of nutrition in India quotes from a document bearing on England in 1935 : "Amongst the lowest income groups are still some who suffer from actual hunger. Immediately above is a much larger group estimated to cover between 20 and 25 per cent of the population, who can afford enough food to fill their bellies, but cannot afford a diet of the type and quality now known to be essential as a safeguard against malnutrition and disease. On the next step upward comes another large group which commands enough purchasing power to obtain an adequate diet for the whole family, provided that this purchasing power is spent on the lines suggested by the Report of the British Medical Association Committee on Nutrition."

The same groups exist in India as Dr. Aykroyd points out. But the proportion of population falling into each is very different. The lowest group includes a much greater percentage. It is impossible to estimate accurately the percentage of population in India which "suffers from actual hunger." But "certainly it is a large one," states Dr. Aykroyd. Over 70 diet surveys of groups of families, both urban and rural, "have been made in various parts of the country within recent years, and in about 30 per cent of the groups, average daily calorie intake per consumption unit was below 2,300, that is, below any reasonable standard of requirements. In various surveys in villages and in industrial areas, an approximately similar proportion of families was found to be underfed by the same standard. These observations cannot legitimately be generalised into a statement about the extent of undernutrition in India, because the sample of the population—about 1,500 families—investigated was small, and cannot in a strictly statistical sense be taken as typical of the country as a whole. But there can be no possible doubt that many millions in India never get enough food to eat, and this fact is of fundamental importance in connection with agricultural policy. Enough food takes precedence over the right sort of food."[1]

[1] "Problem of Nutrition in India" in *Indian Journal of Social Work* December, 1941.

We have in the next place, the group which can afford enough food to fill their bellies but cannot afford the diet of the type and quality now known to be essential as a safeguard against malnutrition and disease. This includes the classes whose diet resembles the ill-balanced diet, costing Rs. 2 to Rs. 3 per consumption unit per month. A proportion higher than 10 to 25 per cent of the population of India falls into this category, though it may be difficult to arrive at any precise estimate.

Dr. V. K. R. V. Rao on Diet

Dr. V. K. R. V. Rao in an article contributed to *Sankhya* in 1938 examines the problem of food supply in India, from the point of view of standard requirements rather than, as Dr. Aykroyd does, with reference to requirements based on the existing food supply. Taking the figures for the gross output of foodstuffs in 1931-32, and deducting the quality of foodgrain required for seeds, for consumption by cattle, and the quantity exported, and making allowance for the loss due to husk, he arrives at the net output available for human consumption in British India. The quantity of foodstuffs available per head of population, without taking into account differences due to age composition or unequal distribution of income, according to these calculations, amounts to 1.8 lbs. per day. In order to arrive at a proper estimate of the adequacy of the nation's food supply, it is necessary to take into account the food available per adult equivalent of the population rather than that available per head. In 1931, there was a total population of 271.5 millions in British India. This population can be regarded as equivalent to 202.7 million adults from the point of view of normal food requirements. On this basis, Dr. Rao calculates 2.4 lbs. as the quantity of food available per adult equivalent made up as below :—[1]

Cereals including pulses	1.12 lbs.
Vegetables and Fruits	.55 ,,
Milk and Milk products	.49 ,,
Vegetable Oil	.03 ,,
Sugar	.12 ,,
Fish and Meat	.07 ,,

The value of this supply in terms of proteins, fats and carbohydrates is compared in the table that follows with the requirements for a standard diet as laid down by the British Medical Association in their Report on Nutrition, as also on the scale suggested by Sir Robert McCarrison in his book on "Food" :—

[1] *Sankhya*, Vol. IV, Part 2, pp. 183 *et seq.*

Description	Net quantity available per unit (after allowing for wastage at 10%)	Quantity Required As per B. M. A. scale	As per Mc-Carrison's scale	Difference in quantity As per B. M. A. scale	As per Mc Carrison's scale
1st class proteins (in gms)	13.5	50.0	47.5	—36.5	—34.0
2nd class proteins (in gms)	45.0	50.0	47.5	— 5.0	— 2.5
Fats (in gms)	30.6	100.0	85.0	—69.4	—54.4
Carbohydrates (in gms)	444.6	500.0	405.0	—55.4	+39.6
Calorified value	2,347	3,390	2,820	—1,043	—473

The amount of food available per man units is thus short of the amount necessary for keeping an adult in good health and efficiency. There is a grave deficiency of proteins of animal origin, and there is not even a surplus of 2nd class proteins, or proteins of vegetable origin, to cover up the deficiency. The maximum amount of animal proteins available per man unit of the population is 69 per cent less than the standard amount laid down in the British Medical Association scale. The actual deficiency is greater, as no account is taken of the milk needs of growing children below 14 years of age in the matter of animal protein. In a country like India, where preference for a vegetarian diet is so strongly ingrained in the people, one would expect the consumption of milk per head to be much higher than in countries with flesh eating population.

Dr. Rao is optimistic about increasing the future output of milk in India, as there are no less than 15 million cow-buffaloes and 38 million cows, whose milk yield can be increased by increasing fodder resources and improving the breeds. Whether such optimism is justified so far as the immediate future is concerned or not, Dr. Rao's article calls attention to the gravity of the problem of food supply and the poverty of the people.

The Milk Problem

Coming, in the next place, to the consumption of milk, the total output of milk is estimated at 700 million maunds. This figure may be increased by 15 per cent, say to 800 million maunds as the lower figure represents only the hand-milked yield. The following table gives us a comparative view of total production of milk and the estimated production and consumption per head of a few countries :—

Country	Total production of milk (1930-34) in million gallons	Human population in thousands	Daily production per head of population in ounces	Daily consumption per head of population in ounces
New Zealand	870	1,559	244	56
Sweden	980	6,233	69	61
Finland	620	3,666	74	63
Canada	1,580	10,377	66	35
U. S. A.	10,380	122,775	37	35
Great Britain	1,474	45,266	14	30
India	6,400	352,838	8	7[1]

India thus occupies the lowest place among the countries which we have mentioned, similar information being not available for tropical and Eastern countries. A country like Great Britain is able to import sufficient milk products to raise the consumption to an adequate scale.[2]

Milk is a foodstuff of particular importance in a country in which the diet is predominantly vegetarian and the consumption of meat very small. A large percentage of the population avoids flesh food and eggs on religious grounds. The majority, however, are prevented from using meat and eggs on account of their poverty and the relative scarcity of such foods. The average Indian diet is thus relatively deficient in proteins of high biological value and the food factors, for example vitamin B_2, which are usually found in association with proteins of this nature. The value of milk for children is recognised even by the illiterate classes. But over large parts of the country, whole milk is scanty and beyond the reach of the poor.[3]

The estimate of 7 ounces daily per head of milk consumption is a very rough estimate based on average milk yields and lactation periods of Indian cattle. A survey of the food consumption of tenant cultivators in Western Punjab, where details of milk consumption available for 39 families were obtained, shows an average daily *per capita* consumption of 5 ounces. It must be remembered, however, that in these families .6 ounces of ghee was daily taken, and also butter-milk, a popular beverage, must have been included in the diet. This would bring the

[1] This figure (6.6) was based upon the population figures of 1931 census and cattle census of 1935. The second edition of the Report on the Marketing of Milk in India brings out the distressing fact of the fall in *per capita* consumption of milk by 12% in recent years. The revised figure of *per capita* daily consumption of milk based on 1941 census of population and 1940 cattle census is 5.8 ounces.

[2] Dr. Wright's Report on the Development of the Cattle and Dairy Industries of India, 1937, p. 1. We are indebted to this report for a considerable part of this section.

[3] Drs. Aykroyd and Krishnan, 'An Article on Skimmed Milk,' etc in *Indian Journal of Medical Research*, Vol. 24, 1936-37, pp. 1,093 *et seq.*

total milk equivalent to 14 ounces per head per day. Similar figures from the Sialkot District of the Punjab show a consumption of about 16 ounces per head per day, including curds and ghee. On the other hand, in a dietary survey in South Indian villages carried out by Aykroyd and Krishnan, milk products were found to be entiremly absent from the diets of 31 out of the 44 families investigated, while the average milk consumption of the remaining 13 families was less than 3 ounces per day. This was supplemented by curds and ghee equivalent to little over 4 ounces of milk. This would give us an average of 2 ounces per head per day for the 31 families.

It is also found that the consumption of milk and milk products is lower in urban than in rural areas. An enquiry conducted in nearly 2,500 working class families in Bombay City by G. Findlay Shirras showed that the quantity of milk consumed per head per day was less than half an ounce. This was supplemented by 0.05 ounce of ghee. A similar enquiry among 87 families of jute mill workers in Bengal gave a daily consumption of just under one ounce of milk and 0.10 ounces of ghee. The following tables which we obtain from Dr. Wright's report are of interest :—[1]

Milk Production and Consumption by Provinces

Province	Daily production per head in ounces	Daily consumption per head in ounces
Assam	1.4	2.2
Bengal	3.1	1.9
Madras	3.6	1.6
Bombay	4.7	4.0
U. P.	4.7	5.0
Central Provinces .	6.1	0.8
Bihar and Orissa ..	6.4	3.2
Punjab	18.3	9.9

Milk Consumption in Certain Municipalities

Province	Municipality	Consumption per day in ounces		
		Milk	Ghee	Other milk products
Bengal	Kharagpur	3.1	0.24	0.29
Madras	Madras	1.4	0.18	0.10
Bombay	Surat	6.1	0.75	0.35
U. P.	Lucknow	1.4	0.35	0.27
U. P.	Agra	2.6	0.42	0.67
C. P.	Jubbulpore	0.9	0.28	0.01
Bihar	Bhagalpur	0.5	0.08	0.19
Punjab	Lahore	2.0	0.40	0.01
Punjab	Amritsar	7.3	1.25	2.61

[1] Pp. 155-56.

In determining the minimum *per capita* requirements of the population in the shape of milk and milk products in India, it must be remembered, as we have already stated, that most of the population lives on a vegetarian diet and that milk is frequently the only available source of first class protein. In view of the importance of milk as the source of protein, the quantity necessary per day can best be calculated on the basis of protein requirements. According to European standards, an intake of 100 grams of protein per day, of which one-third roughly should be first class protein, is necessary. Dr. Aykroyd puts the requirements at 65 grams of total protein. Using the two standards for calculating milk requirements, Dr. Wright gives us the following figures :—

	European Standard	Indian Standard
Daily requirement of first class proteins per head	37 gms	16 gms
Amount of milk needed to supply this quantity of proteins	1,000 ,,	430 ,,
Or a daily intake of	35 ounces	15 ounces

It will thus be seen that the minimum Indian requirements are at least double the quantity of milk at present available in the country. The value of milk as a "protective" food should not be lost sight of. It has been said that with a vegetarian diet derived from a very limited variety of foodstuffs, there is a serious risk of a deficiency of both minerals and vitamins. An increase in the consumption of milk would correct to some extent the present deficiency of protective elements in Indian dietaries. It is thus essential that the production of milk in India should be doubled at least to provide the minimum requirements of our population. Such an increase in production would fail to achieve its object unless the price of milk could be reduced or the income level of the population could be raised.

Drs. Aykroyd and Krishnan, in the paper contributed to the *Indian Journal of Medical Research* to which we have already referred, stress the importance of liquid skimmed milk particularly for children. They point out that in the cost of food supplied in Mission Hostel with which they were familiar, whole milk could not be supplied when account was taken of the fact that its cost did not exceed Rs. 3 per child per month They, therefore, urge the need for popularising the use of skimmed milk products as the cheapest food which could effectively supplement the South Indian diet. They observe that at average South Indian prices, re-constituted skimmed milk would cost about one-third the price of similar quantity of whole milk.

Deficiency Diseases

It has been observed that as rice forms such a large proportion of the diet of the people deficiency of the vitamin D_1 in the rice eaten is not made up from other sources, with the result that beri-beri is prevalent particularly in towns. In 1931, the number of cases treated was 16,966 of which 11,593 were in Madras and 3,203 in Bengal. Sir John Megaw's Report stated that rickets was far more prevalent in Bengal than elsewhere as a disease caused by deficiency in the diet. The total number of cases in India of rickets was 2.3 million in 1933. Night blindness, another diet deficiency disease, was extremely common in the U.P. and claimed 3.6 million victims. The population of India is said to be highly susceptible to tuberculosis. " Tuberculosis," Sir John Megaw observes, " is a disease which has very special importance in India for the reasons that (1) it is likely that many villagers have never come in contact with infection and therefore are virgin soil on which the disease is likely to thrive, (2) the infection is being steadily spread from the large towns to the villages, (3) the disease constitutes a reliable index of the standards of life which prevail in countries in which it has become established for long periods of time ; it spreads rapidly among ill-nourished and badly housed population, and correspondingly diminishes when the people are well-fed, well-housed and cleanly in their habits."[1]

Population and Nutrition Problems

It has sometimes been stated that India is largely self-sufficient in food supply. Such a statement, however, may well be challenged under present conditions. Even in normal years, it is a truism that the food supply of India, with the addition of large imports of rice from Burma, is not sufficient for our requirements in the sense that our population is properly fed. The diet of large sections, as we have seen, is deficient in quantity and quality. There is very little margin of safety to allow for further restriction. It is difficult to estimate how serious the food shortage is or is likely to be in these years of war. The Member for Education, Health and Lands in July, 1942, estimated the net deficit for 1941-42 at 2 million tons of rice and 400,000 tons of wheat. The Food Production Conference which met in Delhi in April, 1942, recommended that " as an insurance against the shortage of staple foods, and with a view to improving the nutrition of the people, all available lands adjoining homesteads should be used for the production of vegetables and quick-growing fruits, such as papayas, bananas, melons and green fodder crops

[1] Quoted by Shiva Rao, *op. cit.* p. 75.

for increased production of milk."[1]

The importance of nutrition research problems has been slowly recognised in India. The cause of malnutrition is undoubtedly to be sought in ignorance, poverty and in the pressure of population on the soil. It may be said that no amount of research in the problems of nutrition—on food values and the causes of deficiency diseases—will enable the poverty-ridden population of this country to obtain a proper diet. But in order to solve a problem it is necessary to study its nature. Knowledge of the nature and short-comings of Indian diet is an essential preliminary to positive measures for improving the diet. The development of agriculture, the nature of the crops to be raised, the determination of the quantity and quality of the cereals, of vegetables and fruits, of milk and milk products required for a balanced diet of the population, in the last resort depend on nutrition research. And if there is to be a social purpose underlying the future food production of India that purpose persupposes the knowledge of diet values.

Finally, national food planning during the war has revealed the possibilities of food planning in times of peace, for the health and well-being of nations. The industrial manufacture of vitamins at a low cost has come within the range of practical action. In England to-day pure synthetic vitamin B is being added to refined wheat flour to bring its nutritive value nearer to that of whole wheat. Considerable discussion is taking place in the U.S.A. about the value of fortifying foods with synthetic vitamins. Similarly, elements like calcium and iron can be administered in capsules as an addition to the diet. The cost of production of such synthetic products is even now not very great. A few factories might produce vitamins at a low cost. And if malnutrition can be tided over by national planning of a balanced diet, any expenditure however large can amply repay itself in the health, the efficiency and the revitalisation of our population, equipped for ever greater production, not with a view to accumulating profits in the hands of a few.

[1] The tragedy of the Bengal Famine of 1943 seems to have shaken the complacency of the Government of India and a positive food policy is being thought out by the Food Department. The Food Member, Sir J. P. Srivastava, in a debate in the Central Legislative Assembly on November 2nd, 1944, informed the House that he proposed to set up in the Food Department a food planning section with a view "to study the whole question of a long range food policy and a planned development of food economy in India so that in post-war India the people of this country could look forward to having more food, better food and balanced food." (*Indian Information*, November 15th, 1944). This is a welcome change in Government policy. The recent steps taken by the Government, like the basic plan, grain procurement policy and the extension of rationing are all war time measures necessitated by the deterioration in the food situation which are not calculated to solve satisfactorily the food problem of our country.

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The importance of nutrition research problems has been slowly recognised in India. The cause of malnutrition is undoubtedly to be sought in ignorance, poverty and in the pressure of population on the soil. It may be said that no amount of research in the problems of nutrition—on food values and the causes of deficiency diseases—will enable the poverty-ridden population of this country to obtain a proper diet. But in order to solve a problem it is necessary to study its nature. Knowledge of the nature and short-comings of Indian diet is an essential preliminary to positive measures for improving the diet. The development of agriculture, the nature of the crops to be raised, the determination of the quantity and quality of the cereals, of vegetables and fruits, of milk and milk products required for a balanced diet of the population, in the last resort depend on nutrition research. And if there is to be a social purpose underlying the future food production of India that purpose persupposes the knowledge of diet values.

Finally, national food planning during the war has revealed the possibilities of food planning in times of peace, for the health and well-being of nations. The industrial manufacture of vitamins at a low cost has come within the range of practical action. In England to-day pure synthetic vitamin B is being added to refined wheat flour to bring its nutritive value nearer to that of whole wheat. Considerable discussion is taking place in the U.S.A. about the value of fortifying foods with synthetic vitamins. Similarly, elements like calcium and iron can be administered in capsules as an addition to the diet. The cost of production of such synthetic products is even now not very great. A few factories might produce vitamins at a low cost. And if malnutrition can be tided over by national planning of a balanced diet, any expenditure however large can amply repay itself in the health, the efficiency and the revitalisation of our population, equipped for ever greater production, not with a view to accumulating profits in the hands of a few,

[1] The tragedy of the Bengal Famine of 1943 seems to have shaken the complacency of the Government of India and a positive food policy is being thought out by the Food Department. The Food Member, Sir J. P. Srivastava, in a debate in the Central Legislative Assembly on November 2nd, 1944, informed the House that he proposed to set up in the Food Department a food planning section with a view "to study the whole question of a long range food policy and a planned development of food economy in India so that in post-war India the people of this country could look forward to having more food, better food and balanced food." (*Indian Information*, November 15th, 1944). This is a welcome change in Government policy. The recent steps taken by the Government, like the basic plan, grain procurement policy and the extension of rationing are all war time measures necessitated by the deterioration in the food situation which are not calculated to solve satisfactorily the food problem of our country.

but for the provision of opportunities for leisure for creative activities and appreciation of the values of life.

Any one who takes an objective view of present conditions in India will be struck by the fact that with food resources that are inadequate for the needs of a growing population, with an ill-balanced diet, accompanied by a lack of purchasing power due to gross inequalities in the distribution of income, the population of India is a population with low vitality, liable to succumb even to preventible diseases. With a population inefficient in productive powers, many of them cut off in the prime of life when their contribution to the national income is at its maximum, with potential resources amply adequate even for our present overgrown numbers, what we need is a planned economy for our agricultural production, backed by our national resources for the maximum utilisation of our land. Thus alone, shall we be able to bring within the reach of all an adequate and a nourishing diet, saving the masses from the inroads of disease and starvation, and building up with the lapse of time a healthier and a happier generation.

CHAPTER XXXI

PLANNING FOR FUTURE

Introduction

When we look to the enormous potential resources which we possess, we ask ourselves if, given adequate and proper planning, we cannot raise this country to the status of a prosperous nation providing its millions with the means of a comfortable existence. This country with its past culture and its sense of values need not enter into that competitive struggle for the capture of markets, which has marked the industrialised countries of the world in the past. But it can look forward to a many-sided development of the life of its people based upon an abundance of the things, which they may reasonably require and for which Providence has richly endowed the country. India possesses a vast population supplying the labour power ; it has ample land resources awaiting cultivation ; it has skill and enterprise ; if adequate capital resources are lacking they can be created by human devices. If India, alone, under British rule in the past showed no signs of progress and prosperity, in marked contrast to the rapid progress of other parts of the Empire, the reason

may be found in the maladjustment of our resources to the other factors of production. For, the development of these resources to the point of their maximum utilisation demands a policy that aims at securing a balanced economic organisation in which capital, labour and the endowments of nature can be adjusted to each other in proper measure. We have reached in the evolution of knowledge a stage in which by social control and management we can increase or decrease the quantities of labour and capital so as to adjust them to the resources available to us in our geographical environment. A free India of the future will be capable of accomplishing what an India as a dependency may have failed to accomplish. By a co-ordinated administration of our national resources, we may succeed in raising India, not to a dominating position with the greed of imperialistic ambitions and with an urge to aggression through economic warfare and armaments, but to the status of an equal amongst equals in the new world order that, we hope, will arise after the war.

We are fully aware of the difficulties that face this country. The soil that has not been cultivated so far may not be responsive to human efforts ; there may be a comparative lack of initiative and organisation for large scale production ; established social traditions and institutions may hamper the prompt recognition of new trends. But the war in which we are involved has made it possible for us to recognise the potential resources of a government which can bring modern science to bear on economic problems. The modification of established precedents in the interests of a higher purpose, in methods of administration, the subordination of private to public interests, the facility with which necessary talent can be recruited, the unification of command with a precise plan behind it—all these which are products of military emergency may well be retained in times of peace by a National Government for the closer integration of our social and economic life. The revolutionary development of our social and economic life which faces us in the post-war period will require all the industrial and financial resources and the resources of labour and scientific technique which this country can command, combined with a sense of uniting power and responsibility on the part of those who will be in charge of our national destinies. But above all, we shall require men and women in this country who will think not only in terms of efficiency and mechanisation, but in terms of the culture and values that promote human happiness and enable men to live more richly and abundantly. The future has promise ; it is for the men and women, for the leaders of thought and opinion, to see that we can build even greater than we hoped for.

Planning in Agriculture

When from these wider considerations, we turn to the question of planning our economic life in some detail, in the light of the agricultural and industrial survey of our problems as revealed in the preceding discussions, the first and dominant element in planning is our agriculture. When we ask what is to be the objective behind our planning in agriculture, let us, in the first place, remember that we have conditions in India favourable to make us self-sufficient in the matter of food. The history of many of the European countries during the last fifteen years has been a history of giving the greatest possible encouragement to agricultural production to render themselves as independent as possible of foreign imports of foodstuffs. Such a policy was forced upon the nations owing to the economic and commercial isolation of the different countries due to trade and customs restrictions as well as currency policy. In countries like Greece and Italy, where cultivable land is limited in amount, far reaching schemes of reclamation of marsh lands have been carried out forming new centres of life. We in India have still fairly large amounts of uncultivated but cultivable land which can be utilised for the needs of our growing population. Moreover, we have not yet by any means reached the limits of intensity of cultivation set by present-day technique. Hungary, for example, since 1926 has adopted systematic measures for the dressing of saline lands by liming and by the application of calcareous subsoil to meet her growing needs for food. Great Britain in 1937 adopted measures to increase the fertility of the land by the addition to the soil of lime and basic slags.

The increase in our population in India makes it imperative on us to ask ourselves, if we cannot bring up our agriculture to a level of efficiency high enough to provide not only for our present numbers but for the demands of increasing numbers. Hitherto, the nation's food supply has remained in the hands of those who have no knowledge of the recent developments in agricultural technique and no material resources for bringing such knowledge, if they possessed it, to bear upon agricultural production. Nor has there been so far a well-directed agricultural policy by a Government anxious to provide adequate food for our growing numbers. Agriculture was never seriously regarded as a vital industry. It supplied a certain amount of revenue to Government, it exported raw materials for European industries. But it never occurred to any one to ask if agriculture supplied adequate food for the rural population, or if it helped the population to live above the bare margin of subsistence.

We need a national policy and consequential corporate action not merely for providing a food supply that is adequate but a food supply that would avoid malnutrition. We need a policy based upon research that would secure a quality of food essential to health. The League of Nations Report on the Problem of Nutrition pointed out that two discoveries have recently revolutionised modern thinking about health and disease—that of the importance of the vitamins to the maintenance of good health, and that of the essential connection between the healthy functioning of the human body and some twelve inorganic mineral elements. The Committee that drew up the report suggested a minimum standard of human diet and suggested that " Governments should consider the steps to be taken, whether at public charge or otherwise, to meet the nutritional needs of the lower income sections of the community, in particular as regards ensuring adequate food supplies, specially safe milk for expectant and nursing mothers, infants, children and adolescents, and the needs of unemployed and other distressed adults ; that everything possible should be done to make food supplies available at prices within reach of all classes of the community."[1]

The first step towards planned agriculture in India would be to adopt measures for increased food production. The primary emphasis has to be placed on quantity, as a large proportion of our population has not enough food. But it is not only sufficient food, but the right kind of food that we require to correct the dietary deficiencies of our people. During the last few decades, there has been a tendency for commercial crops like jute, cotton, groundnuts and oil seeds to increase in volume sometimes at the cost of food crops. There has been in the past a complete lack of any plan. We need reliable statistics which would enable us to gauge the total food requirements in every province, and as a preliminary to production, we need the mapping out of our agricultural land in each province accompanied by a proper soil survey and a cropping system. Land now under the cultivation of inferior cereals may be diverted to the cultivation of more nutritive ones.

Moreover, every measure that can increase the productivity of the soil needs to be brought into operation—rotation of crops, green manuring, deep tillage of the soil, introduction of new varieties by selection and cross-breeding. Use might also be made of varieties capable of withholding any natural calamities by which the crop might be reduced. But all these measures particularly in the case of a country like India have to be sponsored and brought into operation by State help and under State super-

[1] Quoted in '*Indian Journal of Medical Research*', Vol. XXIV, pp. 567.

vision. In the West, even in countries where conditions of competitive farming exist, it was the State that first intervened in the scientific sphere and in the control of varieties. Official control of seeds has been the precursor of official control of plant improvement. The allocation of particular varieties of plants to particular districts has been carried out by the State in the U.S.S.R. and Greece. The organisation for the application of scientific research to agriculture is supplemented by the adoption of all available means of popularising technical knowledge, keeping agriculturists informed of technical progress. It is the countries which have acted in accordance with these principles which are now at the head of the agricultural movement.[1]

The adoption of intensive cultivation, so as to increase the yield from the soil, as we have said so often, presupposes not only a Government that subsidises the cultivators but a Government that has laid down a comprehensive policy of agricultural development which it is prepared to carry out by far reaching measures of agrarian reform. Such a policy would include reallocation schemes, construction of roads and water supply systems and the spread of agricultural training, fixation of prices, measures for increasing consumption, carrying over of surpluses, the banning of imports, organisation of markets—all of which are elements in a comprehensive planning.

In the next place, it has been said that conditions under which crops are grown determine to a great extent their nutritive value. If soil, for example, is deficient in phosphorus, the crops grown on such soil contain a low percentage of this element. McCarrison found that rice grown on puddle fields had a nutritive value approximately 33 per cent less than the same rice grown under comparatively dry conditions.[2] Land receiving farmyard manure yields wheat and other cereals of greater nutritive value and of higher vitamin potency than those grown in fields treated with chemical fertilisers.[3] The problem of soil fertility is thus an integral part of planned agriculture.

The agrarian reforms in Central and Eastern Europe adopted after the depression period involve collective action by the State which is not unsuited to a country like ours, where the traditions connected with the use of common pasture, woodlands and water sheds constitute the background favourable to the development of collective methods. From a nutritional point of view, the importance of fruits and vegetables is so great

[1] "Conditions and Improvement of Crop Production, Stock Raising and Rural Industries", (European Conference on Rural Life), Geneva, 1939, pp. 12 *et seq.*

[2] Ganguli, "Health and Nutrition in India," 1918 p. 282.

[3] "Influence of Irrigation on the Nutritive Value of Rice", in *Indian Journal of Medical Research*, 1928.

that State action may profitably be undertaken for substituting such protective foodstuffs on lands either allocated to tea or coffee.

Equally, if not more important, is the question of land reclamation in India. In the earlier days, land reclamation schemes were undertaken for hygienic or economic reasons. Sometimes social considerations determined State policy in this connection. In Italy, for example, the malaria-infected marshy regions like the Pontine Marshes led the Government to undertake a programme of integral land reclamation in 1928. This programme included the supply of drinking water, the construction of roads and farm buildings, reafforestation and other measures. In view of our increasing numbers dependent on land, while we adopt measures for increasing the productivity of the soil already under cultivation, our attention should also be devoted to land reclamations—a term which we shall use to cover not only land under water or liable to inundation but also all that land which is classified as cultivable soil and the land classed as " not available for cultivation." Such work can only be undertaken by the State as part of agricultural planning. Apart from the economic and hygienic benefits which land reclamations can confer, there are benefits of a demographic and social character which follow upon such a policy. Land reclamation can provide work for the unemployed and absorb, in the first instance, some part of the surplus population now living a half-starved existence. It may also satisfy the land hunger of large masses of the people by making available to them the reclaimed land on a large scale. Wherever land reclamation has been carried out, land values have substantially risen and the returns from the land have also generally increased. But even if these economic benefits do not follow upon a policy of land reclamation, the hygienic and social benefits of such planning would justify financial expenditure even on a lavish scale by the State. We have indicated at length in the earlier chapters of this volume that the problems of our agricultural economy can never be satisfactorily solved except by a frontal attack on all of them in a comprehensive manner by a reoriented agricultural policy, involving the abandonment of private enterprise. It is rather pathetic under the circumstances, to find the Bombay Plan still relying on private enterprise for the regeneration of our agriculture.

Planning for Industries

But planning is not to be confined to agriculture alone. Whilst recognising the potentialities of our agricultural development, we have also to take into account our vast mineral resources, our forest resources and the nature of our raw materials, not to mention our skilled and unskilled labour, which make our country well adapted to the growth of

industries. We need not dwell on the necessity and desirability of rapid industrialisation in our country. Industrialisation does not necessarily imply the growth of the monstrous combines and trusts of the U.S.A. type. The development of our hydro-electric power potentialities may make it possible for us to enjoy all the benefits of a machine age, whilst avoiding the evils of overcrowding and slums and sweating, which have hitherto characterised the growth of industries in the West. We must not forget that the objective behind our efforts at industrialisation need not be the capture of foreign markets, but the satisfaction of our internal demand for all such commodities as we can produce with the resources at our command. Our industrial system to-day has no settled co-ordinated policy behind it. It is the outcome of a capitalist organisation based on private enterprise, with uneconomic localisation and inefficient methods of management. What we need is a policy of the socialisation of our industries, even as we need a policy of the socialisation of agriculture—aiming at making the country self-sufficient within the limits of our resources, so that we may have a balanced life, with a standard that will make not only for health and efficiency, but for that leisure and freedom which are the necessary preliminaries to a cultured existence.

If planning in industries is to be brought into operation in India, it will require the mobilisation of our capital resources through the development of banking institutions. Banking habits are unknown hitherto to the millions of India, steeped in ignorance and unable to read and write. Such habits can only be fostered by an intensified programme of education, not only of the younger generation, but of adults. Planned industrialisation will also require a clearly defined currency policy, aimed, not as it has been in the past at a stabilisation of our foreign exchanges, but at providing for the general needs of trade and commerce, and at regulating the internal price level from time to time in response to the demands of trade and industry. Industrial planning, moreover, cannot be divorced from social planning. If economic planning is the conscious co-ordination of a nation's resources to the needs of the people, it must involve a redistribution of industry, over and above positive control of the profit making motive. Dispersal of machine industries amongst scattered towns and villages, so as to avoid the evils of concentration, overcrowding and slums, has to become a part, and an essential part, of planning. Such "decentralisation" of industry may thus become part of a conscious direction of the economic system, if it has to face successfully the morbid conditions of our city life, and if it is to restore the personal home industry of the countryside which is absent in the impersonal large-scale productive processes of our towns.

Industrial planning in India will have to guard against our manufacturers and entrepreneurs, the representatives of finance capital who also talk of planning, of the necessity for industrialisation, who advocate tariff protection and the development of banking facilities, all in the interests of private enterprise. In January, 1944, eight leading representatives of big business published a "Plan for the Economic Development of India," popularly known as the Bombay or Rs. 10,000 Crores Plan, Part I. This was followed in January, 1945, by a second part dealing with distribution and the rôle of the State. The first part dealt with production and the financial implications of the plan. Sir M. Visvesvaraya, in September, 1944, brought out his own plan of "Reconstruction in Post-War India", which, he says, "has the support of the great majority of leading businessmen in practice." This tendency of planning by capitalists is a new war-time tendency common to a number of capitalist countries, and has far reaching consequences which are of vital importance in a country like ours which has vast potential resources hitherto undeveloped. Planning *within* the capitalist economy is only a device of the vested interests to preserve the *status quo* as far as possible, by giving promises of full employment, freedom from want, and other slogans of the same species. It is an attempt to bolster up the myth of private enterprise turning sand into gold. The Beveridge Plan, for example, may be for ought we know, a repetition of the old Roman device of keeping the Plebians contented by games and bread. The authors of our Indian plans have in addition the familiar device of proclaiming the need for a "national government" as a preliminary to the successful working of any plan. Nay, Sir M. Visvesvaraya would be quite satisfied if only the present government obtain the opinions of representative leaders and businessmen, as they the businessmen are "the public". Bernard Shaw has characterised the present war as a war between Anglo-American Fascism and German and Italian Fascism. Are we in India to let ourselves be easily beguiled into a Democratic or Neo-Fascism under the guidance of big business, with socialist production, or a lip worship of socialist production which is combined with un-socialist distribution ?[1]

Addressing a meeting of the Central Committee of the All-India Manufacturers' Organisation on 21st June, 1942, Sir M. Visvesvaraya observed : "We appeal at the same time to political and industrial leaders to come together, frame a plan and programme, and give a lead to businessmen and workers in every corner of the country in order to maintain industrial activities at the level suited to each locality. Government can best serve the interests of industries by leaving their guidance and control

[1] See our brochure—"The Bombay Plan—A Criticism", May, 1945.

in the hands of leading industrialists and businessmen of the country, as is being done in Canada and Australia, by constituting Boards, Councils or Committees of such men—particularly of men trusted by their people—and giving them the help of Government funds and an executive staff." This is the reflection of a mentality which cannot rise above a blind imitation of Western industrialism. The warning uttered by R. H. Tawney regarding industrialism in China is equally, if not more, applicable to our country. "The disease of young China," he observes, "is its fever for imitation and in programmes of industrial reconstruction it rages unchecked. Designed for America, for Europe, for the moon, for anywhere except the unhappy country on whose attention they are pressed, they rehearse impossibilities with dreadful monotony, as though mere persistence in repetition could convert fancies into facts. The course of wisdom in economic affairs is precisely the opposite. It is to "lead from strength." An intelligent nation need not copy slavishly the methods of other countries. It will discover in what its own peculiar advantages consist, and, instead of merely reproducing what is already done effectively elsewhere, will concentrate its efforts on doing what elsewhere is not done so well, or not done at all. China, it may be suggested, will make a profound mistake if she is so much impressed by the industrial achievements of America and Europe as merely to ape them, instead of striking out her own line herself."[1]

The planning, we have in view, is not planning by industrialists and manufacturers who consider industrial concerns to be the private property of the owners ; it will be planning by the nation for setting up a a new pattern of life and work, in which industry will be the social servant of the nation, supplying its needs as planning for agriculture is intended to supply the needs of the community. Such planning implies the end of *laissez-faire* and private enterprise on a competitive basis.[2]

Whatever the new order may turn out to be at the end of the present war, no nation whatever can afford to overlook the need for planning its economic life. The reason that has worked in the past in an instinctive manner in the evolution of economic institutions is now entering the

[1] "Land and Labour in China", 1932, p. 135.

[2] Among other plans put forward recently we may mention the "People's Plan," by the Radical Democratic Party of Mr. M. N. Roy, which accepts the fundamental principle for which we are contending, viz., socialised planning, but is over-optimistic, and stresses too much the development of agriculture, due to the fear that intensive industrial development at this stage would result in entrenching capitalist interests. We may also mention the so-called "Gandhian Plan", by S. N. Agarwal, Principal of the Wardha College of Commerce ; this plan is based on the principles of Gandhism, and is not free from contradictions even if it is not out of tune with modern economic trends.

stage of deliberate and purposive direction of economic life in the light of principles. Each nation is endeavouring to build up its economic life on the foundations of its past, limited only by the resources at its disposal. Soviet Russia has built up a new order in the light of Marxian principles. The "New Deal" in the U.S.A. has been an attempt by a Capitalist Society to determine its economic life in the light of a specific social purpose—whether that purpose was termed the creation of purchasing power in the hands of the masses, or the removal of unemployment, or a more equitable distribution of incomes. The Fascist experiment in Italy consisted in planning a corporate life which would eliminate the conflicts of competitive production. We in India have to plan our economic life—but what that planning is to be has to be determined by our past history and our present needs. There is no standardised pattern of economic life which can be prescribed for all nations and countries. The future to which we can look with equanimity and hope is a future when the nations of the world, each with its distinctive culture and economic pattern of living, can come together as members of a single family, adding to the beauty and glory of an ever enriching and ever unfolding humanity.

The problem that faces India is that in spite of the advantages that we possess in respect of all the aspects of our national economy—agriculture, industry and commerce, we remain to-day an undeveloped country, with our millions living on the margin of subsistence. "It seems almost like a paradox that while India is considered by the economic experts of the League of Nations to be one of the eight principal countries of the world, she continues to be mainly an exporter of raw materials and importer of manufactured goods."

To raise the standard of living of the people, to bring to them by a many-sided development of our economic resources the possibilities of a fuller and a richer life, to provide transport facilities within the country, especially by the construction of roads and by the extension of motor transport, to develop our domestic industries, mainly subsidiary, by rural electrification, adding indirectly to the amenities of rural life, and above all to create larger home markets for our agricultural products—these might well be the objectives behind the economic planning that we have to undertake.

But whilst we aim at the growth of a balanced economic existence bringing the means of comfortable living within the reach of our masses, we need not be false to those ideals of which we have reason to be proud. As in the lives of individuals, so in the lives of nations, there are two types of temperament that sometimes appear in marked contrast. Shall

we take the analogy of the bee and the butterfly —a contrast also reflected in the parable of the two sisters of Bethany ? Whilst the bee is busy storing honey, the butterfly has the leisure to love the lotus. Whilst Martha was busy sweeping and cleaning, Mary chose a different part—that of sitting at the feet of her master. Whilst the orchards and the fields have their value for a hungry humanity, the flower gardens have also their value—not in what they supply for the satisfaction of the body, but in what they are in themselves, enriching human life by their beauty. "Consider the lilies of the field, how they grow ; they toil not, neither do they spin. And yet I say unto you that Solomon in all his glory was not arrayed like one of these." The lilies exude an aroma which no toil can produce. They spend themselves for others. We, in the East, have a tradition that fits in with Mary's part. Even the home has to be given up in quest of the Infinite. We recognise our social bonds only in order that through their acceptance they may be transcended. And yet Martha's part is not inferior to Mary's. Martha's work is work for her Lord ; if work takes us away from God, it loses its value. Our valuations may be different. The civilisation that fights and conquers the forces of nature, and the civilisation that realises for man the fundamental unity in the depths of existence are not opposed, but complementary to each other. When these contrasted attitudes to life come together in the years ahead of us, humanity will have entered into its heritage. But if India is to contribute its own share in the building up of this larger and better world, it has to do so, and can do so, only if her people are provided with the things that are needed for a many-sided life, only if with a prosperous agriculture and growing industries, her people get that leisure and freedom in which the wind can blow where it listeth, and where the creative imagination can be liberated from the limitations of what *is*. We have written this volume in this hope and with this faith ; we send it forth in the conviction that whilst the soil on which we are born may tie us down in return for the material and cultural benefits we have inherited from it, the sky overhead may still leave us free to use this very culture for the realisation of a human community which is God's Kingdom to whose citizenship we all aspire.

APPENDIX

ECONOMIC PLANNING IN INDIA

Ever since the success of the Five Years' Plans of Soviet Russia, planning has been regarded as a panacea for all economic ills. During the last two or three years planning has grown in importance, and even capitalists and businessmen who are generally believed to be the bitter enemies of planning and who swear by *laissez faire* have become converts to the idea of planning.[1] Apart from this, the governments of different countries have also been busy preparing plans for post-war reconstruction. That post-war economic policy must centre round the idea of planning seems to have attained the status of an axiom. This world trend towards planning is also reflected in the history of our country. Sir M. Visvesvaraya was the first to write about Indian economy on a planned basis, in a book entitled "Planned Economy for India." It was no doubt planning within the economy, but it merits attention as the first attempt to think in terms of planning. Then came the appointment of the National Planning Committee with Pandit Jawaharlal Nehru as its President appointed by the Indian National Congress to prepare a comprehensive economic plan for India. But due to the political upheaval the work has been interrupted. However, it is being carried on by Prof. K. T. Shah to an extent. Various plans have recently been prepared under the auspices of the Provincial and Central Governments in India. So far as the Provincial Governments are concerned they aim at rural reconstruction and helping those villages in particular from which there has been good response to military recruitment. Thus the Government of Bombay has published a booklet entitled "Planning for the Future of Bombay's Countryside," with a prospective expenditure of Rs. 60 crores ; and recently the details of this scheme are published in another brochure "Post-War Reconstruction." Similarly the other Provincial Governments have their own schemes. The Government of India have prepared a number of schemes through different departments. Important among these are, "Post-war Forest Policy for India"—a Note by Dr. Howard, "Technological Possibilities of Agricultural Development in India"—A Note by Dr. Burns, "Report on Health Insurance for Industrial Workers", by B. P. Adarkar, "Post-War Development of Indian Fisheries", Memorandum on "Indian Monetary Policy in the Post-War

[1] See Section I in our recent brochure "The Bombay Plan—A Criticism", May, 1945.

Period," another on "Post-War Trade Policy" and "Localisation of Industries," all by Dr. Gregory, the Economic Adviser to the Government of India, the Kharegat Memorandum on Agricultural Development, and the more recent statement on Industrial Policy. Besides these, there are plans regarding transport development, educational development, and a number of committees are busy on several problems. In July, 1944, the Government of India created a new Department of Planning and Development, with Sir Ardeshir Dalal, one of the signatories to the first part of the Bombay Plan, in charge. Prof. C. N. Vakil of the University of Bombay has been appointed as Economist to this department. Apart from this, the Reconstruction Committee of the Government of India have issued their first and second reports on "Reconstruction Planning". We need not comment on these plans, but it is necessary to point out that all these plans and schemes which have a bearing on post-war reconstruction, piecemeal and compartmental as they are, without a wider vision of planning as a whole, are not likely to offer an effective solution of our fundamental problem.

Big business in our country, like their confrères in the West have also put forward their Rs. 10,000 crores plan for the economic development of India. The Radical Democratic Party of Mr. M. N. Roy has published "The People's Plan." These two may be regarded as important unofficial documents on Planning ; and we give below a brief summary of both. The reader who has carefully read the foregoing pages will have no difficulty in understanding our attitude towards these plans.[1]

THE BOMBAY PLAN

The plan is a statement in a concrete form of objectives, lines of development and the demands on the country's resources which planning will involve. The plan presupposes a national government and the economic unity of India. It contemplates a national planning committee and a supreme economic council for execution of the plan. The objective is to bring about a doubling of the present *per capita* income in 15 years and a trebling of the total national income to allow for an increase of population at the rate of 5 million per annum. It proposes to raise the output of agriculture to twice the present figure and of industry to five times the present output. Attention is to be directed primarily to the creation of industries for production of power and capital goods. Provision is also to be made for manufacture of essential consumption goods, the fullest possible use being made of small scale and cottage industries.

[1] For our views on the Bombay Plan, see our recent brochure, op. cit.

Studies made by nutrition experts suggest a well-balanced diet with an energy value of 2,800 calories. The cost at pre-war prices of such diet would be Rs. 65 per adult per annum, involving an annual expenditure of Rs. 2,100 crores for a population of 389 millions. For clothing, at 30 yards per year per person, we would require 11,670 million yards, and an expenditure of Rs. 255 crores at 3½ annas per yard. The total expenditure for housing would be Rs. 1,400 crores, with a yearly maintenance cost of Rs. 258 crores.

The Plan goes on to point out that for a minimum standard of living provision would have to be made for sanitation and water supply in rural and urban areas, and for dispensaries, general hospitals and maternity clinics, as well as specialised institutions for treatment of tuberculosis, cancer, leprosy, etc. The total cost of health and medical services would be :

	Rs. (crores)	
	Non-recurring cost	Recurring cost
Sanitation, water supply, etc.	100	7.5
Rural Dispensaries	132	141.9
General Hospitals	22	16.5
Maternity Clinics	8	6.6
Specialised Institutions	19	12.5
Total	281	185.0

The Plan also contemplates recurring expenditure on primary education at 90 crores of rupees per year. Thus in order to secure a minimum standard of living, the Plan requires a *per capita* income of Rs. 74 at pre-war prices. The objective is to secure a three fold increase in the total national dividend within a period of 15 years, raising the aggregate income of British India to Rs. 5,300 crores per year. Assuming the plan to start in 1945, the population of India will increase by 1960 to 489 million, and a three fold increase in the total national dividend would in effect mean a *per capita* income of Rs. 135, representing a doubling of the 1931-32 figure. This three fold increase would involve the following increments in the net income from industry, agriculture and services :

	Net Income in 1931-32 (Rs. crores)	Net income expected after 15 years (Rs. crores)	Percentage increase
Industry	374	2,240	500
Agriculture	1,166	2,670	130
Services	484	1,450	200

Industries are classified into (a) basic industries (b) consumption goods industries. The basic industries should be developed as rapidly as possible, namely, power industries, mining, machinery and machine tools, chemicals, armaments, transport, etc. Consumption goods industries, like textiles, leather goods, paper, tobacco and oil, are to be further developed. Adequate scope is to be provided for small scale and cottage industries. The total amount of capital required to increase the net industrial output to Rs. 2,240 crores would be about Rs. 4,480 crores, as against the pre-war capital invested in industries, excluding railways and other forms of transport, estimated at Rs. 700 crores. The agricultural production is to be increased by consolidation of holdings, cooperative farming, liquidation of the agricultural debt through co-operative societies, by measures for prevention of soil erosion and extending the area under cultivation. Cultivators are also to be educated to improved methods of cultivation. The capital required for increasing production to the target figure is estimated at Rs. 1,095 crores for non-recurring expenditure and Rs. 150 crores for recurring expenditure.

The Plan also contemplates an increase of 21,000 miles in Railways and 300,000 miles in roads, and provision for more harbours. This would involve a non-recurring expenditure of Rs. 897 crores and recurring expenditure of Rs. 49 crores. The total requirements of the plan would amount to Rs. 10,000 crores distributed as follows :

	(Rs. crores)
Industry	4,480
Agriculture	1,240
Communications	940
Education	490
Housing	2,200
Health	450
Miscellaneous	200
Total	10,000

The Plan, then, goes on to indicate the sources from which the capital expenditure may be met, as below :

External Finance		
Hoarded Wealth	300	
Sterling Securities	1,000	
Balance of Trade	600	
Foreign borrowing	700	2,600
Internal Finance		
Savings	4,000	
"Created Money"	3,400	7,400
	Total	**10,000**

For purposes of execution, the Plan is divided into three plans, each covering a period of five years, with expenditure as indicated below :

	First Plan	Second Plan	Third Plan	Total
Basic industry . ..	480	1,200	1,800	3,480
Consumption goods industry	310	330	360	1,000
Agriculture .. .	200	400	640	1,240
Communications . .	110	320	510	940
Education . .	40	80	370	490
Health . ..	40	80	330	450
Housing ..	190	420	1,590	2,200
Miscellaneous	30	70	100	200
Total	1,400	2,900	5,700	10,000

The second part of the Plan discusses the methods of distribution and the part assigned to the State in a planned economy. The authors refer to the inequalities in income amongst different classes, and admit the necessity of gradually reducing the existing inequalities of wealth. Towards achieving this object they would include amongst the measures to be taken imposition of death duties, reform in the system of land tenures and provision of the fullest scope for small scale and cottage industries. They also include control by the State, accompanied by State ownership or management of public utilities, basic industries, etc. Wages, interests and profits should continue to be determined on the basis of demand and efficiency, provided wages do not fall below a certain minimum. Interest rates should be controlled with a view to maintaining full employment. Profits should be kept within limits through fixation of prices, restriction of dividends, taxation, etc.

To secure a minimum standard of living, there should be provision of fuller scope for employment. Industrial expansion would absorb a considerable part of the working population. Industrial co-operatives of the China type might contribute to the same result. A large part of the population will be absorbed in trade and other services. Seasonal unemployment in agriculture is to be met by mixed farming, cultivation of more than one crop in a year and by provision of subsidiary industries.

The Plan anticipates that in 1962, that is, in the year following the completion of the plan the distribution of working population would be as follows :

	1931		1961	
	millions	percentage	millions	percentage
Agriculture . ..	106.3	72 .	129.7 .	58
Industry	22.1	15	57.9	26
Services . ..	19.2	13	34.7	16
Total working population ..	147.6	100	222.3	100
Total population	338.1		494.0	

Due to, inherent imperfections in the workings of a social policy, a small percentage of population will always be without work. There will be seasonal unemployment, and diplacements owing to changes in demand and technique of production. Schemes of relief like unemployment insurance might be devised. Wage rates in agriculture will increase with the development of farming. A beginning in the establishment of minimum wages might be made in industries like cotton textile, sugar, cement, engineering, jute and mining, with the help of a standing committee constituted for each industry, consisting of representatives of employers and workers.

For the principal agricultural crops Government should fix fair prices and regulate the volume of imports by tariffs or by fixing quotas. Multipurpose cooperative societies should be established to enable the cultivator to find adequate finance, to market his crop and obtain storage facilities. The Plan also envisages development of communications, standardisation of weights and measures and spread of commercial intelligence. Land tenure problems are then considered. The Plan approves of the recommendation of the Floud Commission to do away with the Zamindari system, and suggests the gradual application of the principle of Ryotwari system to Zamindari areas in the whole of India, where the landlord is not directly interested in the cultivation of the land. The assessment of the land revennue is to be lowered with an exemption limit.

The Plan contemplates an increase in *per capita* income at the end of the plan as below :

	Average income per occupied person		
	1931	1961	Increase per cent
	Rs.	Rs.	
Agriculture ..	114	200	93
Industry	161	368	129
Services ..	264	397	50

Measures for reducing the cost of living include provision of free social services, e.g., education and medical treatment and of utility services like electricity and transport at low costs. Setbacks in conditions of living due to unforeseen causes are to be guarded against by the creation of a national relief fund. Sickness insurance and holidays with pay for workers in organised industries are to be introduced as a beginning in the direction of social insurance.

Gross inequalities of income are to be remedied by a steeply graduated income tax and death duties.

The Plan must fit in with the general outlook and traditions of the people. An enlargement of the positive as well as preventive functions of the State is essential to any large scale economic planning. An integrated plan of economic development is reconcilable with democracy, which rests on the assumption that the freedom of the individual to give full expression to his personality is one of the supreme values of life. If a planned economy involves the restriction of individual freedom, such restriction under a democratic government will be of limited duration and confined to specific purposes. Capitalism in so far as it affords scope for individual enterprise and the exercise of individual initiative, has a very important contribution to make to the economic development of India. At the same time, unless the community is endowed with powers for restraining the activities of individuals with selfish aims, no plan of economic development will succeed in raising the general standard of living.

Coordination of economic activity, management of currency and public finance, collection of statistical and other information, and adoption of legislation for protection of economically weak classes are some of the legitimate duties of the State in the economic sphere. Another set of functions advocated by enlightened opinion include (1) ownership, (2) control, and (3) management of economic enterprises. Control, says the Plan, is more important than the other two. Mobilisation of means of production and their direction to socially desirable ends can be adequately secured by State control.

State ownership is necessary in enterprises important to public welfare or security, and also where the circumstances of the industry are such that control is ineffective unless it is based on State ownership. Where ordinary methods of State control are supplemented by State ownership, it is necessary to place management also in the hands of the State, as in the case of armaments manufactures, posts and telegraphs. Enterprises owned wholly or partially by the State, public utilities, basic industries, monopolies, industries using or producing scarce natural resources and industries receiving State help should normally be subject to State control. As illustrative of control the Plan mentions fixation of prices, limitation of dividends, prescription of conditions of work and wages for labour, nomination of government directors on the board of management, etc.

All enterprises owned by the State need not be managed by it. There are three alternative methods of management, viz., by the State, by private

enterprise and by *ad hoc* public corporations. It is not possible to lay down a general rule, and each case has to be decided on its own merits.

During the planning period additional controls of a temporary character will be necessary, similar to those at present in force under war conditions. Control of production will secure better regional distribution of economic enterprises. Distribution will be controlled with the object of determining priorities for the release of raw materials and capital goods. In early stages of planning control will also include rationing and distribution of consumers' goods, with a view to securing fair selling prices and preventing inflation. Control of investments will take the form of approval by the State of new capital issues. Trade and exchange will be controlled for conserving foreign exchange and protecting Indian industries. These controls will be exercised through a national government responsible to the people, a government adequately representative of every considerable body of political thought and sentiment in the country.

PEOPLE'S PLAN

Planning in itself does not ensure economic progress and well-being. The Soviet planning based on the socialisation of the means of production attained a large measure of success in raising the standard of living of the Russian people. The German planning did not touch either the private ownership of the means of production or profits. The recovery of Nazi Germany involved an expansion of producers' goods industries, and especially of armaments. It dragged Germany into the present war which is an outcome of planned capitalism, i.e., Fascism.

The aim for a planned economy of raising the standard of living of the people must be linked up with the particular proposals by which it is to be achieved. Any attempt to increase the purchasing power of the people will have to concentrate on agriculture in the first place. This will enable industries to grow, leading to an increasing creation of new wealth. Industrialisation, including the mechanisation of agriculture, will have to be financed and controlled by the State. Production for well-being cannot be planned on the basis of private enterprise guided by the profit motive. In regard to industries in which private capital has already been invested, such capital shall be entitled to a fixed maximum revenue of 3% guaranteed by the Government.

The future State in India will have to be a genuine democratic State, composed of autonomous republics with a democratic constitution, owning the land and mineral resources and controlling the heavy industries and

banks. There will be free and compulsory education, cooperative agriculture, and a standard of living guaranteed by a minimum scale of wages.

The object of the planned economy must be to provide for the satisfaction of the basic needs of the people within a period of 10 years, in respect of food, clothing, shelter, health and education. The expansion of production must be accompanied by changes in distribution which will permit an expansion of the total volume of consumption by the community. All surplus production instead of being diverted into a few private pockets, must be controlled and made available for reinvestment, so as to bring increase in gainful employment and an ever rising standard of living.

Land will have to be nationalised and rural indebtedness will have to be liquidated. Nationalisation of the underground riches will require adequate statistical material. The total cost to the State of nationalisation of land is estimated to work out as below, on a basis of compensation.

	(Rs. crores)
Compensation to rent receivers in the Zemindari tenure ..	1,022
Compensation for land the income of which is devoted to public purposes	400
Compensation to non-cultivating owners is ryatwari tenure ..	213
Acquisition of rights re. underground riches and fisheries, and arrears in rent	100
Total	1,735

With regard to rural indebtedness the Plan proposes to scale down the present debt of Rs. 1,000 crores to 25% and transfer it to the State. The total liabilities of Rs. 1,985 crores (1735+250) are to be met by self-liquidating bonds issued by the State carrying 3% interest, which will involve a burden of Rs. 60 crores per year.

Increase in the production of agriculture can be brought about by extending the area under cultivation and intensification of cultivation of the area already cultivated. Reclamation of 100 million acres of land at an average expenditure of Rs. 60 per acre, extension of irrigation projects by 400% in 10 years, use of modern machinery, anti-erosion measures, afforestation schemes, provision of adequate manures, improved seeds, etc.—all these would involve a total expenditure spread over 10 years as follows :

	In crores of Rupees	
	Capital expenditure	Recurring expenditure
Reclamation of Land	600	—
Irrigation	600	15
State farms . ..	375	125
Soil conservation and development of forests	300	15
Rural industries	200	—
Manures, seeds, etc.	720	—
Total	2,795	155
		Grand Total 2,950

There should be a gradual process of collectivisation of agriculture, through State farms and through the extension of facilities to the collectives in respect of implements, manures, etc. The increase in the output of agriculture will lead to an expansion of the internal market for consumers' goods industries, which will include amongst others, textiles, leather goods, sugar, paper, drugs and chemicals, tobacco, oil industry, furniture and glass. The total capital to be invested in all these industries, both fixed and working, would be Rs. 3,000 crores. The development of the consumers' goods industries will necessitate the development of the basic industries, including hydroelectric power, mining and metallurgy, iron and steel, heavy chemicals, machinery and machine tools, cement, railway engines, etc. The total capital during ten years for the development of these industries would be Rs. 2,600 crores.

The total amount of capital required for the development of industries would thus be Rs. 5,600 crores (3,000+2,600). All the new industries would be financed, owned and controlled by the State. There will be rigid control over industries in which private capital has been already invested. Prices would be fixed by the State, and the revenue permitted to private capital would be fixed at 3%.

Any considerable use of cottage industries will be irreconcilable with the spirit of the plan. The labour released from agriculture with the process of collectivisation will be absorbed on the newly reclaimed land, in the health, education and housing services, in the expansion of industries and communications, and in private enterprise.

Development in the means of communication which will be indispensable in the ten years plan will involve a total expenditure as below :

	In crores of Rupees	
	Capital expenditure	Maintenance charges
Railways	595	11
Roads	450	53
Metalling the present unmetalled roads	100	—
Shipping	125	6
Ports . ..	50	5
Inland Navigation ..	50	5
Posts, Telegraphs, etc. ..	50	—
Total	1,420	80
		Grand Total 1,500

The total expenditure for the purpose of providing amenities of health to the people during the period of the plan would be as follows :

	In crores of Rupees	
	Capital expenditure	Current expenditure
Village dispensaries	109	137.5
Hospitals in urban areas	30	25
City hospitals	15	14.8
Maternity and child welfare centres	—	2
Special hospitals . ..	86.4	48.6
Rural water supply & Sanitation ..	250	—
Urban water supply & sanitation ..	50	—
Total .	531.4	227.9
		Grand Total 760

Education, like health services, is to be rendered free to the population. A school for every thousand of the population, a middle school for every four primary schools and a high school for every four or five middle schools, is the minimum machinery for education in rural areas during the 10 years plan. So also for urban areas. The total expenditure would be as follows :

	In crores of Rupees	
	Capital expenditure	Current expenditure
Rural Primary schools	91	160
Rural Middle schools	42	93
Rural High schools	60	54.5
Urban Primary schools	21	37
Urban Middle schools	10.5	22
Urban High schools	24	20
University and Technical education	40	—
Training of technicians	150	—
Rural Cultural Centres	125	75
Urban Cultural Centres	9.5	5.5
Total ..	573	467
		Grand Total 1,040

Similarly estimating the total number of houses at 66 million in the rural areas and 10 million in the cities the total cost of housing is stated as below :

	In crores of Rupees	
	Current expenditure	Current charges
Rural housing	2,700	—
Urban housing . ..	400	50
Total	3,100	50
		Grand Total 3,150

The entire Plan covering a period of 10 years will thus involve an expenditure of Rs. 15,000 crores, distributed as follows :

	In crores of Rupees
Agriculture	2,950
Industry	5,600
Communications	1,500
Health	760
Education	1,040
Housing	3,150
Total ..	15,000

In order to ensure the success of the Plan, consumers' goods will have to be made available in adequate quantities to the people at fixed prices. The circulation of commodities is to be organised through Producers' and Consumers' Cooperatives. Pending the creation of such a machinery the present channels of trade will be permitted to function, subject to rigid control by the State.

On the financing of the Plan, the following schedule of investments is suggested :

In crores of Rupees

Year	Agriculture	Basic Industry	Consumers' goods industry	Communications	Health	Education	Housing	Total
I	200	100	—	—	—	—	—	300
II	350	100	100	—	20	30	—	600
III	450	100	100	—	20	30	—	700
IV	500	100	150	50	30	37	—	867
V	450	150	250	100	40	90	274	1,354
VI	450	300	400	200	50	100	288	1,788
VII	250	350	450	300	80	150	480	2,060
VIII	100	400	500	300	120	180	848	2,448
IX	100	500	500	300	200	200	726	2,526
X	100	500	550	250	200	223	534	2,357
Total	2,950	2,600	3,000	1,500	760	1,040	3,150	15,000

The initial expenditure is concentrated on those items which are expected to bring immediate return. The new incomes accruing from agriculture and industries are represented as below :

In crores of Rupees

Year	Agriculture	Basic industry	Consumption goods industry
I	—	—	—
II	—	42	—
III	900	84	42
IV	1,600	126	84
V	2,280	168	147
VI	2,820	231	252
VII	3,360	354	416
VIII	3,660	500	604
IX	3,780	666	812
X	3,900	875	1,020
Total	22,300	3,046	3,377
		Grand Total	28,723

It is out of the new income in addition to the present one, that the financing for the plan is to be obtained. Starting with agriculture, the value of the agricultural produce, including that of live stock, fishing, hunting and forest products has been estimated as Rs. 900 crores. Assuming Rs. 300 crores as amount diverted to the pockets of the landlords and money-lenders, about Rs. 600 crores remains in the hands of the rural population, giving a *per capita* income of Rs. 23 for the rural areas. Nationalisation of land and abolition of usury will leave initially Rs. 300 crores to the rural population, about Rs. 200 crores being rent, and Rs. 100 crores, interest on a debt of Rs. 1,000 crores at 10%. Out of this additional Rs. 300 crores that will be left in addition to their present income in the hands of the rural population, Rs. 150 crores should be mobilised by the State in the pre-first year of the Plan. This can be regarded as income from the nationalised land. During the 10 years of the Plan the amount should further be collected every year on a sliding scale, reducing every year the amount by Rs. 10 crores, until the figure of Rs. 60 crores is reached during the ninth year of the Plan. Out of the amount the payment of Rs. 60 crores per year to the rent receivers as well as the usuress can be made, and the rest utilised for the purpose of being reinvested into the economy.

The following table will indicate the rural *per capita* income during the period of the Plan :

In crores of Rupees

Year	Income Agri.	Income from Nationalised Land	Payment to rentiers etc.	Investable Surplus	Income for consumption	Rural per capita income
I	900	140	60	80	760	29
II	900	130	60	70	770	30
III	1,800	120	60	787	953	35
IV	2,500	110	60	1,242	1,198	43
V	3,180	100	60	1,678	1,442	51
VI	3,720	90	60	1,818	1,842	65
VII	4,260	80	60	1,955	2,245	77
VIII	4,560	70	60	1,776	2,724	94
IX	4,680	60	60	1,410	3,210	107
X	4,800	—	60	1,100	3,640	121
Total	**31,300**	**900**	**600**	**11,916**	**18,784**	—

The total agricultural income during 10 years comes to Rs. 31,300 crores. Out of this, income left over for consumption is Rs. 18,784 crores, i.e., about 60%. The rural *per capita* income will have increased from Rs. 23 to Rs. 121 by the end of the plan.

The present net output of industries is estimated at about Rs. 300 crores, with a capital of Rs. 600 crores. The charge of private capital invested in the industries will amount to about Rs. 20 crores. The following table will indicate the change during the ten years of the plan :

In crores of Rupees

Years	Industrial Income		Total new Income	Total Industrial Income	Charge of private capital	Investable surplus	Income for consumption	Urban per capita Income
	Basic Industries	Consumer goods						
I	—	—	—	300	20	50	230	57
II	42	—	42	342	20	50	272	68
III	84	42	126	426	20	80	326	81
IV	126	84	210	510	20	112	378	94
V	168	147	315	615	20	110	485	106
VI	231	252	483	783	20	242	521	116
VII	354	416	770	1,070	20	493	557	124
VIII	500	604	1,104	1,404	20	750	634	140
IX	666	812	1,478	1,778	20	947	811	162
X	875	1,020	1,895	2,195	20	1,315	860	172
Total	**3,046**	**3,377**	**6,423**	**9,423**	**200**	**4,149**	**5,074**	—

The total income from industries during 10 years comes to Rs. 9,423 crores, out of which Rs. 5,074 will be left for consumption, i.e., about 54%. Of the remaining, Rs. 1,315 crores are allotted for reinvestment during the

eleventh year of the plan, and, therefore, the net investment from industries for the purpose of developing the economy comes to Rs. 2,834 crores, that is, about 30% of the total income from industries.

The calculations of the *per capita* income are arrived at after taking into account the increase in population during the period. Moreover the calculations have been made on the basis of income available for consumption only, and not on the basis of the so-called " national income."

Under the Plan the income which passes to the landlords, usurers, or private capital is rigidly controlled. The accumulation of investable surplus in the hands of the planning authority will be accompanied with a continual improvement in the standard of living of the people. It will also be seen that the income to be invested into the economy from the fourth year of the plan onwards will be obtained from the economy itself. The initial finance needed for the plan for the period of the first three years will be Rs. 1,600 crores. Rs. 240 crores will come up to the second year of the plan from the income from nationalised land. The total collection would be Rs. 420 crores out of which Rs. 180 crores will go to the rent receivers and the usurers as interest on bonds issued to them by the State. We have also a sum of Rs. 100 crores obtained from industries in which private capital has been invested, once they are controlled, during the first two years of the Plan. Thus the total available will be Rs. 340 crores. Our requirements of initial finance will thus be reduced to Rs. 1,260 crores.

The sterling balances to the credit of India to-day amount to Rs. 1,000 crores. It will not be possible for us to get the entire amount immediately after the war. But the balances belong to us, and should be available for the economic development of the country. The initial preparatory period of the plan is four years. For three years more the plan will have to be financed from what we already have, as in the later stages from what we will be able to produce. For the period of five years, therefore, we expect a sum of Rs. 450 crores to be realised from the sterling balances. Thus we have Rs. 790 crores out of the requirements of initial finance of Rs. 1,600 crores. The remaining amount of Rs. 810 crores will have to be collected by the State. This sum represents about 45% of the national income and will be spread over a period of 4 to 5 years. If it is spread over 4 years it amounts to a collection of 11% of the national income from reinvestment.

This amount could be collected through taxation—graded estate duties, inheritance tax, etc. It may be necessary also to resort to compulsory

borrowing. The inflated reserves of the industries will provide another source.

The external finance needed for the execution of the plan would be obtained through the export of surplus agricultural produce. Another source will be the export of minerals.

Thus the total finance of Rs. 15,000 crores needed for the execution of the plan will be obtained as follows :

	In crores of Rupees
Sterling balances	450
Initial finance—Estate duty, inheritance tax, death duties etc. ..	810
Income from nationalised land in the pre-first year of the plan	90
Income from agriculture for reinvestment during the period of the plan	10,816
Income from industries for reinvestment during the period of the plan	2,834
Total ..	15,000

INDEX OF AUTHORS CITED

Abhyankar, N. G. "Provincial Debt Legislation," 195
Adams, Brooks, "The Laws of Curlisation and Decay", 279, 280
Adarkar, B. N., 434
Adarkar, B. P., 20, 314, 315, 320, 341, 432, 434-36
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Bhave, "A Survey of Landless Agricultural Labour in S. Bazar," 252
Board of Economic Enquiry, Punjab, 17, 21, 222, 225, 226, 227
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Buchanan, "The Development of Capitalist Enterprise in India", 282, 286, 290, 293, 300, 320, 337, 351, 352, 353, 401, 406, 408, 477
Burns, Dr., "Report on Technological Possibilities of Agricultural Development in India", 12, 116, 168, 275, 524
Calvert, Dr., "Size of Holdings", Board of Econ. Enquiry, Punjab, 172
Carr Saunders, "World Population", 60, 97
Census Report, 1921, 82
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Foreign Commerce Weekly, 124
"Future of Investment in India", 470, 471
Gadgil, D. R. "Regulation of Wages and the Problem of Industrial Labour in India", 405
Gadgil, D. R., and V. R. Gadgil, "A Survey of Farm Business in Wai Taluka", 223-24
Gadgil and Sovani, "War and Indian Economy", 296
Ganguli, "Health and Nutrition in India", 542
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