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THE NATIVE ECONOMIES
OF NIGERIA

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THE NATIVE ECONOMIES OF NIGERIA

being the first volume of a study of
THE ECONOMICS
OF A TROPICAL DEPENDENCY

by
PROFESSOR DARYLL FORDE
and
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PREFACE BY THE EDITOR

The production of this book has been made possible by the Trustees of the Higher Studies Fund of the University of Oxford who have made generous grants to Nuffield College for research into colonial questions. The College delegated the supervisory responsibility for this research to a committee, the membership of which is given on the page opposite the title page, and commissioned me to direct the work. This began in July 1941.

Very small amount of attention has been given to the colonial field by economists and the sudden urgency these problems assumed just before and during the second world war, and will increasingly assume during the post-war period of re-adjustment and development, led us to devote the larger part of our resources to economic questions. Nigeria was chosen as the territory to be studied, partly in its own right as containing the largest and almost the poorest population of any British dependency, partly because most of its problems were typical of those of backward tropical economies, especially in Africa. This choice was reinforced by three practical reasons which, under the difficulties of wartime with regard to the recruiting of research workers, of obtaining information and of travelling overseas, were especially important. Firstly, it was possible to obtain, for the very important sections on the native economies, the collaboration of Professor Forde, who had close, intimate and recent knowledge of the country. Secondly, we were fortunate enough to be able to arrange for Dr. Fortes, who was going out to the Gold Coast, to spend four months travelling in Nigeria in order to collect up-to-date economic information for us, from many official and unofficial sources. Thirdly, I had already some knowledge myself of this territory and contacts with it and this was the more useful as none of the contributors was able to work in the territory.

This brings me to my own position as the editor of this book. It was clear that for this piece of work it was essential for me, as a student of history and government, to have the full co-operation of an economic editor. There was, however, no economist available with experience of colonial questions, while most other economists had been drawn into government service and their colleagues in teaching posts were working under heavy pressure. By great good fortune it proved possible to persuade Professor A. G. B. Fisher to act as economic editor in such spare time as he could find. The contributors to this book and myself thus had the value of his tireless and unselfish service from July 1941 to July 1943. At this date, unfortunately for us, he went to the United States to take up duties with the New Zealand Legation in Washington. The book owed much in its

early phase to his advice and encouragement. After Professor Fisher had left us, Dr. A. J. Brown very kindly agreed in October 1943, in spite of the pressure of other work, to take his place as economic editor in his spare time. Dr. Brown gave us very valuable help, and undertook a great deal of responsibility during some months of 1944 when I was sent to the West Indies and the United States upon an official mission. Upon my return in July 1944 he told me that he found it impossible to continue in the position of co-editor as he could not afford to give the large amount of time required in the final editorial processes. He felt that in view of this and of his not having been associated with the work in its earlier formative stages, he could not accept the responsibility of appearing as economic editor. Fortunately, he was still able to fulfil his promise to write the concluding chapter.

Professor Macgregor was chairman of the colonial committee from December 1942 to October 1944, when Professor Henry Clay took up his duties as Warden and became chairman in time to preside over the committee and give his very valuable help and advice during the final stages of production. Professor Macgregor devoted a great deal of his time to reading scripts and discussing difficult points and those concerned with this book owe him a large debt of gratitude.

This somewhat lengthy story had to be told not only that due recognition might be given to my economic colleagues but also in order to explain why the name of a non-economist appears as sole editor of an economic book.

Although readers of my generation were probably, like myself, taught at a very early age that it was bad manners to make excuses before embarking on some exhibition of art, I think it is only fair to the contributors as well as to myself to point out that the production of a book of this kind has met with some difficulties caused by the war.

The first of these is that owing to some of the writers having other pressing work, parts of the book took longer than had been anticipated and publication has therefore been delayed. Thus, for example, Dr. Leubuscher sent in her chapter early in 1943 while other chapters, coming in shortly before publication, give later facts and figures. With the very rapid and important changes now taking place in West Africa, it is impossible, however, for a book of this kind, especially in view of the present obstacles to rapid printing, to deal with the very latest developments.

The second difficulty, is really no more than the ordinary condition governing colonial research which has been enhanced by war. It lies in the inadequacy, both in quantity and quality, of colonial information. This is due not only to delays and cancellations in the publication of reports in the territory; to the slowness and loss of mails during the worst period of the war, but also to the inadequacy of the material itself. This is a large subject and it cannot be dealt with fully here. It is quite understood that a colonial government, in relation to the immense tasks it undertakes,

is provided with a very small staff, and, in spite of the increase since the first world war of technical experts, still acts mainly through general administrative officers; it cannot, therefore, hope to work up the amount and type of data which an economist needs for his investigations. Administration, moreover, is still insufficiently close over many of the vast tribal areas of Nigeria to allow of the collection of accurate statistics, whether about production or consumption, or even for the three or four fundamental demographic figures which are essential for the economist as for other specialists. No one knows better than the administrative officer, and those who have studied him at work in the bush, the limitations of his assessment and intelligence reports, his taxation registers, and, still more, his estimates of population. The writers of these chapters have used them in the full realisation of their large and varying margins of error because they were in many cases the only material available. It is encouraging to know that a committee at the Colonial Office is already considering how more adequate and uniform statistical data may be produced for the dependent Empire.

In view of the urgency and pioneer character of most of our selected subjects, it would have shown a very poor spirit to allow these difficulties to deter us from writing and publishing these volumes at this time. Nor do we apologise that our list of headings is not complete: comprehensiveness would have carried us into six years work and to three or more volumes. We have selected some of the most important and least studied aspects of Nigeria's economic life and we hope that others will not only fill the gaps, but in conditions of peace and of plenty as regards information, will improve upon the chapters in these two volumes.

A few words are required in this Preface about the relationship of this book with two others upon West African economics which have appeared since we began our own work. The first of these is the brilliant analysis of certain aspects of West African production and trade which formed part of a book by Professor Hancock published in 1942.¹ In these chapters the writer covers not Nigeria only but the whole of West Africa, bringing his own peculiar combination of the historical and philosophic approach to the study of tropical economics. The treatment in our own book is quite different; it is more factual and sectionalised; it concentrates upon Nigeria alone and deals with subjects necessarily omitted from Professor Hancock's discussion. We have deliberately endeavoured to avoid any serious overlapping, but though we have assumed that most readers of this work will already like ourselves, have been stimulated by Professor Hancock's study, it was inevitable that in one or two chapters, especially those upon export crops and upon extra-territorial companies, a few portions of the same ground should have been covered.

¹ *Survey of British Commonwealth Affairs*, Volume II, *Problems of Economic Policy*, Part 2, 1942.

The other book that has been published since we began our own work appeared in 1943 at a later stage in its progress. It consists of two technical sections on soil and livestock extracted from the hitherto unpublished report of the West Africa Commission of 1938-9 which was financed by the Leverhulme Trust.¹

ACKNOWLEDGEMENTS

Nuffield College was founded with the intention that academic studies of modern affairs should be carried out in co-operation with those in practical charge of them. In fulfilment of this principle, this book has been written in the closest possible contact with those who in government or commerce handle Nigerian economic affairs.

Our main debt is to members of the Colonial Office and the Colonial Service who have given us the help that only they could give. At the Colonial Office we have been treated with the greatest courtesy and helpfulness in the several departments to which we applied, while without the inexhaustible patience and human kindness of the Librarian and his staff it would be impossible to attempt studies of this kind. Dr. Fortes was able in the course of a four months' tour in Nigeria on behalf of the College to collect unpublished material and also to have numerous interviews with officers. I should like, as editor to join with him in thanking all those official and unofficial Europeans and Africans, who gave him their help and hospitality. The group working at Oxford had the advantage of meeting a large number of officials of all grades and departments of the Colonial Service, generally by inviting them during their leaves to discussions in Oxford but sometimes through interviews in London. We are deeply grateful for the generosity of these officials in giving us their time and energy in this way. In the early stages of the work a small private conference was organised and attended by some of those most concerned with West African economic affairs. This proved a very valuable approach to the subject for the contributors to this volume.

I can do no more than record, in terms no less warm because it must be general, our thanks to all officials for their services. It is important to emphasise that this piece of research does not carry any form of official authority and that no statement or opinion it contains should be taken to have the approval of the Colonial Office or of the Nigerian Government.

Thanks are due in many other quarters. We applied to a number of the firms operating in Nigeria and from these we received most helpful information. We would especially like to thank for their help John Holt and Co., and Cadbury Brothers, particularly Mr. Paul Cadbury and Mr. Hood. At Barclays Bank (Dominion, Colonial and Overseas), we are especially indebted to the late Sir John Caulcutt and Mr. A. B. Gillett.

¹ *The Leverhulme Trust West Africa Commission, 1938-9, Technical Reports, 1943.*

In the academic world our gratitude is due to the two anthropologists, Dr. Margaret Green and Dr. Harris, for allowing us to make use of some of their unpublished material upon West Africa. Professor R. M. Knox acted with the same generosity. Among the many others who have helped us, it is impossible not to give very special thanks to Colonel Williams formerly general manager of the U.A.C. in Nigeria and member of the Legislative Council who has devoted a very large amount of time and trouble to interviews and the reading of drafts. Mr. H. J. Rawlings was another who gave often and generously of his great knowledge and practical experience. None of these must be held in any way responsible for opinions expressed by the writers.

This responsibility rests, of course, with the individual contributors. The many discussions, both at a preliminary stage and upon draft chapters which went on amongst the contributors and with me left each with his or her independence of outlook and opinion. The reader will, therefore, find at a number of points a difference of emphasis and judgment and should not assume that the view of any one of the writers is shared either by the others or by the editor.

Dr. Scott agreed to come to Oxford while she was writing her chapter in order to act as administrative secretary and proved a most helpful and business-like colleague. When she finished her work in April 1943, Miss Judah was appointed Secretary of the Nuffield College Colonial Research Office, and I should like to add my own special thanks to her for the untiring energy and the long hours she had devoted to helping me with the many laborious editorial tasks. Professor Forde very kindly undertook responsibility for the maps which have been designed to meet the needs of the reader in both volumes. Miss Bower, too, gave valuable help in the final stages of production.

Owing to the conditions which have confronted the publishers at this time it has proved impossible to bring out both volumes upon the expected date. There will, therefore, be considerable delay before the appearance of the second volume. We have decided, however, as the whole book is a unity, to treat it as such, and the introduction, the conclusion, the list of contributors and the bibliographies appearing at the end of the second volume apply to both volumes. A list of the main headings of the contents of Volume II appear in this book.

MARGERY PERHAM

Oxford 1945

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SIR ALAN PIM, K.C.I.E., K.B.E., C.S.I. Indian Civil Service, 1895-1930. Officiating Finance Member of Government, United Provinces of Agra and Oudh, 1928. Financial and Economic Commissions, Swaziland and Zanzibar, 1932; Bechuanaland, 1933; British Honduras, 1934; Basutoland, 1935; Kenya, 1936; Northern Rhodesia, 1937. Author of *The Financial and Economic History of the African Tropical Territories*. Member of the Colonial Development Advisory Committee 1935-9.

M. FORTES, M.A. Capetown, Ph.D. London, who collected material for these two volumes in Nigeria, is now Reader in Social Anthropology in the University of Oxford. Among other appointments, he was Head of the Sociological Department, West African Institute of Industries, Arts and Social Sciences, Accra and Fellow of the International African Institute.

ANGUS MACKINTOSH, B.A. Oxford, carried out some enquiries into British commercial organisation of West African trade. Mr. Mars and others have made use of this material. Mr. MacKintosh contributed a section upon the Ministry of Agriculture and Fisheries to *Advisory Bodies*, edited by Vernon and Mansergh.

GENERAL INTRODUCTION: THE COUNTRY

I. OUTLINE OF POLITICAL AND ECONOMIC DEVELOPMENT

BY MARGERY PERHAM

The chapters which follow will analyse some of the most important aspects of the present economic life of Nigeria. It is not their purpose to give any general and comprehensive picture of the character of the country, its people, or its government, nor even of the historical sequence of its economic development. This must be found in other books.¹ In order, however, that these general and historical aspects may not be entirely lacking from this book, an attempt will be made in this introduction to set out in chronological sequence the most important steps in the political and economic development of the country, and to remind readers of its main physical characteristics.

The immense block of tropical Africa called Nigeria is the largest British dependency in both area and population. It has no natural political unity and little more economic unity than its modern, and still very incomplete, transport system can give it. Its annexation was carried out piecemeal by Britain in successive stages under the impulse of varying forces and ideas. Until Europe's age of discovery in the fifteenth century this part of Africa had been cut off from the historical world except for the narrow stream of racial and cultural influence which could thread the caravan routes of the Sahara from the higher civilisations of the Eastern Mediterranean and the lower Nile. This stream had deeply affected the northern, drier and more open region: it had brought the blood of Eur-African groups to mingle with that of the negroes: it had won most of the northern people to Islam by the time of the direct European contact and had resulted in their speaking a Hamitic language, as against the Sudanic and Bantu languages of the south. In diluted form it had flowed—though without carrying Islam all the way—into the more physically accessible western parts of the south which were dominated by the great Yoruba group of tribes. But it had been checked wherever forests and hills inter-

¹ A bibliography will appear at the end of Volume II, but it may be useful to mention two or three of the books which give some of the general political background which cannot be included here: Lord Lugard's *Dual Mandate in British Tropical Africa*, 1929 (largely built on his Nigerian experience), A. C. Burn's *Short History of Nigeria*, 1936, 2nd edition, and M. Perham's *Native Administration in Nigeria*, 1937.

2 THE COUNTRY: OUTLINE OF POLITICAL

posed any considerable barrier, and, above all, had left the peoples of the densely populated south-eastern regions and the Jos plateau in their primitive cultural backwardness and atomic organisation.

The contact with Europe by sea began in the fifteenth century and soon developed into the slave trade which removed millions of African negroes from the west coast to the new world. This trade deprived Europeans of any incentive to penetrate and annex this inhospitable country; native chiefs and traders produced the goods for them at the coast and conditions of disunion, warfare and raiding in the interior at once facilitated the trade and were aggravated by it. When Britain abolished the trade in 1807 no revolutionary change took place in the West African situation, partly because the foreign slave traders rushed into the vacuum so that the export of Africans for a time actually increased, and partly because the British people then and throughout the middle decades of the nineteenth century maintained, for reasons largely concerned with their economic system, a deliberate policy of non-annexation.

Two influences joined to run counter to this strong current. One was that of the humanitarians who began to realise that the negative, preventive efforts of the Royal Navy would never suffice to kill the trade, and that this could be achieved only by a positive policy of opening up 'legitimate trade' and thereby civilising Africa. The other was the somewhat intermittent efforts of the traders to substitute a traffic in palm-oil for the rich exchange of which they were now deprived. These impulses met with strong obstacles which included the rough Atlantic surf; the bars that guard the rivers which were the only ways of communication through the forest regions; the hostility of many of the people; the lack of any native authority wider than that of the scores of independent tribes and clans, and above all, the fatal effect of tropical disease upon Europeans. There was, however, at least one compensating advantage. The coastal people had for centuries been inoculated to external contacts and commerce—for even the slave trade is trade—and they were therefore somewhat less unready for the great developments that were coming to them than were the tribes of most of the equatorial east and centre of Africa.

The first efforts of humanitarians and traders were thwarted by the terrible loss of European life which, through native hostility, and, still more, through disease, befell the expeditions up the Niger in 1832, 1834, and 1841. The attempts, however, required some political support, and reluctant measures by the British Government accompanied these humanitarian and commercial efforts. A British consul was appointed in 1849 to watch over the affairs of the Bights of Benin and Biafra from the Spanish island of Fernando Po, and in 1860, after a relatively successful trading expedition on the Niger, a naval doctor, Baikie, was established as a kind of commercial consul as far inland as Lokoja. The next year, Lagos was annexed as a colony in order to stop the flourishing slave trade flowing

through that African city from the warring interior. From this date, in spite of the attitude of the British Government, the influence and even the control of the consuls extended year by year over the militant but commercially-minded tribes of the Yoruba hinterland. This paved the way for further annexations, mostly carried through by consent, which a changing British policy made possible in the last two decades of the century.

Meanwhile in the seventies a commanding figure, Sir George Goldie, had stepped in to galvanise a hesitating government; to amalgamate rival companies and enable British diplomats at the Berlin Conference of 1885 to assert the over-riding claims of their country's commerce on the Niger. There followed the establishment of the British Oil Rivers Protectorate in the same year, while in 1886 Goldie's company received a charter as the Royal Niger Company 'with power to administer, make treaties, levy customs and trade in all territories in the basin of the Niger and its affluents'.

The next fifteen years saw the gradual extension of British power inland through these three separate administrations. It was not all peaceful, especially where the coastal chiefs and middlemen found their favourable economic position, now centuries old, outflanked by the penetration inland of European traders and especially of the Niger Company which, in spite of the terms of its charter, established something approaching a monopoly within its regions. As the century wore on, the objections to entrusting so much power to a commercial company, even though Goldie himself was a man of wide political vision, became increasingly clear. There was need, too, for a strength and authority only possible for an imperial government in order to maintain the western border against the French and extend British power over the large, hostile, slave-raiding Moslem states of the north. Here a non-negro, pastoral people, the Fulani, had inspired a *jihad* in the first decade of the nineteenth century and this had set their leader and his successors in Sokoto as sultans, with primacy over those other Fulani dynasties which had mastered Kano and the rest of the old Hausa Moslem principalities of Northern Nigeria. The movement failed to conquer the peoples in the north-east grouped about another ancient Moslem state, which had supremacy in Bornu and the region round Lake Chad. It did, however, extend Fulani rule in somewhat feeble form over some of the still pagan groups of central Nigeria. The Fulani ruling class, never very numerous, soon began to mingle with the Hausa peoples and only those who clung to their isolated pastoral life retained their purity of blood and custom. The Fulani emirates lost their revivalist ardour and political energy as the nineteenth century wore on, but they retained enough of their pride and hostility to the infidel to defy British attempts at peaceful penetration and to persist in their ruthless raiding of their pagan neighbours. One fiery old emir retorted to British exhortations by asking if a cat could be stopped from mousing, and declared that he would die with a slave in his mouth.

In 1900 the British Government, in order to deal with this situation, took over from the Niger Company all its administrative powers and the new High Commissioner, Sir Frederick Lugard, ran up the Union Jack at Lokoja and proclaimed the Protectorate of Northern Nigeria. He succeeded in three years, by the use of much tact and moderation and a negligible employment of force, in bringing all the northern emirates to acknowledge British sovereignty. The company—the only British chartered company in Africa which proved economically profitable—remained as a commercial enterprise, selling all its other rights and assets to the government for £385,000, but retaining for ninety years one half of the mining royalties to be levied by the government from a region between the Niger and a line drawn from Yola to Zinder. This region contains the tinfields of the plateau though their exact location was not known until after this transaction. The company's southern territory was added to what had been the Oil Rivers Protectorate and the whole region became the Protectorate of Southern Nigeria. In 1906, the Colony of Lagos and the Protectorate became the single administrative unit of Southern Nigeria. In 1914, under the governorship of the late Lord Lugard, north and south were amalgamated into the Colony and Protectorate of Nigeria. The last change to record is the addition in 1918 of the long strip of conquered German territory which is held under mandate from the League of Nations and called the British Cameroons.

The variety of political conditions in this large region, and also of the agencies first entrusted with its administration, have made Nigeria an important field for administrative experiment. The dominant influence in this sphere has been the system developed by Lord Lugard and known as indirect rule. His own conviction of the importance of conserving as far as possible African institutions and traditions were already present in his mind when he took over Northern Nigeria in 1900. They were now reinforced on the one side by lack of money and of staff and on the other by the relatively high standard and wide authority which the northern emirs, in spite of the defects of their rule by British standards, had achieved. In seven years of patient work, in co-operation with a band of devoted officers, he built up an advanced and rationalised system of native self-rule. This, with the corpus of instruction and philosophy which was later developed around it, has had influence not only in the rest of Nigeria, but throughout British Africa and, indeed, beyond.

There is no need to discuss here either the achievements of this well-known experiment or the mistakes which were made when it was transferred as a system, instead of being applied as a set of principles, to conditions to which, as in southern Nigeria, it was not applicable without large adjustments. The main point to observe here is that, in measures varying with their size and capacity, the native societies of Nigeria have now had for some thirty or forty years well-defined powers of subordinate government.

These include, as Sir Alan Pim's chapter will show, the retention of from 50 per cent to 60 per cent of the direct taxation they themselves collect. With these revenues they finance their local administration and also, in the more advanced units, carry out a number of economic functions, such as the conduct of public works and of agriculture and forestry enterprises.¹

The emirates of Northern Nigeria, with their internal order, centralised rule and Moslem culture, provided strong foundations for a more civilised method of government, including a system of direct taxation. It was somewhat more difficult to adapt the pagan Yoruba states of the south-west and much more difficult to fit any effective and intelligible structure upon the minute pattern of clans and family groups in the south-east. After much groping and many failures, the last fifteen years have seen the Yoruba chieftainships gaining in administrative cohesion and efficiency at the same time as they have been deeply penetrated by European influences. In the south-east, as a result of the most earnest efforts, following the outbreak of disorder in 1929-30, a flexible system, more suited than before to the customs and wishes of the people, has been devised as a stage on the way to larger and more efficient government units. Thus the whole country is now covered by a system of native administrations, each fitted into a general system but closely moulded upon the character of the existing tribal society.

At the capital city of Lagos, Nigeria has a legislative council of the Crown Colony type, which, except for a partial limitation of its powers with regard to the Northern Provinces, in practice acts as the supreme legislative and financial body. Although the Governor retains control through his official majority in this and in the executive council, Africans have recently been nominated to the latter and have from the earliest days been members of the former. In a council of 44, there are 21 unofficial members, seven of them nominated Europeans and ten of them nominated Africans, while four other Africans sit as elected members for the towns of Lagos, Calabar and Port Harcourt. Their influence has grown steadily with their education and experience and it is interesting to remark, in the context of this book, that they show an increasing concern with economic questions, and, since all the unofficials sit upon the finance committee which examines the annual estimates, they can exercise a close and powerful influence, which must grow with their education and experience, upon the fiscal and economic policy of the country.

Just as this volume was going to press very important proposals for the re-organisation of the whole constitution of Nigeria were published as a White Paper.² They provide for three regional councils for the north, south-west and south-east which will draw their membership from the native administrations and will also act as electoral colleges for a recon-

¹ Detailed estimates of Kano Native Treasury will appear in Volume II.

² *Proposals for the Revision of the Constitution of Nigeria*, Cmd. 6599, (March 1945).

stituted legislative council. This will legislate for the whole country and as it will have not only an unofficial, but a clear African, majority, these proposals represent an important step in the direction of representative government. From our economic angle we may notice especially that these regional councils are to have important financial powers, since they will take over the balance of direct taxation not retained by the native administration, while the appointment in each region of deputy directors of all the important departments, who will be official members of the councils, will allow of far greater devolution from the centre and much greater co-ordination of their work under the three chief commissioners. We may also hope, in view of the large enterprise of economic development that lies just ahead, that the new constitution will promote much closer co-operation between Africans and officials at all three levels, those of the native administrations, the regional councils, and the central legislature.

It remains to sketch in, against this historical and political background some of the main phases and events that have marked Nigeria's economic development.¹

We have already seen how the vigorous activity of the slave trade was followed by a semi-stagnant period in which the 'legitimate trade', mainly in palm-oil, was slowly increased. From 1866 the curve of West African trade begins to rise more steeply: it doubled itself between 1870 and 1875 and continued to rise, though more steadily, up to 1890. This was due mainly to a convergence of external factors favourable to the oil trade, such as the need of the multiplying machinery of Britain for lubrication, the rise both in the number of the British people and their standard of living, leading to greater demands for soap and candles, and also to the increased carrying capacity of the new steamships. In 1870, the value of palm-kernel oil for margarine was discovered. A first faint shadow, however, fell upon the growing prosperity of Nigeria's main export with the development during the sixties and seventies of trade in competing products from the Far East.

The two decades between 1890 and 1910 are marked by an advance due not only to the unregulated forces of international commerce but also to a purposive new colonial policy which was Britain's response to the increasingly sharp competition from certain other powers and the potential threat of their growing political and military strength. The new imperialist inspiration in Britain which had been expressed by Disraeli in foreign and Indian policy was now directed to the practical management of Britain's new 'imperial estate' by a politician with a hard, clear head,

¹ For further information about the economic and financial development of Nigeria see McPhee, A., *The Economic Revolution in West Africa*, 1926, Pim, Sir A., *Economic History of Tropical Africa*, 1940, and Hancock, W. K., *Survey of British Commonwealth Affairs*, Vol. II, Part 2, 1942.

who was Colonial Secretary from 1895 to 1903. Joseph Chamberlain applied business methods to the development of the colonies and demanded economic facts and development plans from their governments; he re-invigorated the Colonial Office and began a true Colonial Service; he pushed the development of colonial communications, and pounced eagerly upon Sir Ronald Ross's discovery of the significance of the mosquito, which made 1897 an outstanding year in the history of European penetration into the tropics. This policy was expressed in Nigeria not only by the extension of British political control, which has already been mentioned—and it was Chamberlain who chose the dynamic Lugard as the agent of his policy—but by work to improve the harbour of Lagos and by the railway from that port inland. This reached Ibadan in 1900 and Jebba on the Niger in 1906.

It has been customary to judge the development of a colony almost exclusively by its export and import figures. As Professor Forde's chapter will show, these provide inadequate evidence about the well-being of the peoples. Yet these figures remain the most easily ascertainable yard-stick of material development and as such deserve our first attention.

The beginning of the twentieth century saw Nigerian imports (admittedly composed too largely of spirits and gunpowder) at a figure of £1,735,000 and exports (82 per cent of which were palm products, and 10 per cent wild rubber), at £1,858,000. The next decade from 1910 to 1920 was marked by the opening up of the north by the extension of the railway from Baro on the Niger to Kano which was reached in 1913. This not only made it possible to develop a trade in the bulky export of ground-nuts but began that diversification of Nigerian production which has relieved much of the danger of its former almost mono-cultural position. The *pax Britannica* had made it possible for the ordinary villagers to grow for export, and the development of communications now made it profitable.

Table I illustrates these changes since 1900 by showing for each of the years which marked a peak of prosperity or a trough of depression (as indicated by the total value of Nigerian exports) the value and volume of the chief Nigerian export products; the values of each product being also expressed as percentages of the value of total exports. It shows that palm products fell in relative importance from 82 per cent of the total exports in 1900 to 31 per cent in 1937 as improved communications brought other commodities to the fore. Thus the ground-nut trade expanded from a few hundred tons in the first five years of the century to over 300,000 tons in 1937, while its value increased from less than 1 per cent of the total exports to as much as 24 per cent in the trough year 1933. Exports of cotton lint increased by 100 per cent between 1913 and 1921, their value comprising 5 per cent of the total exports in 1921, and, after some fluctuations, reached their highest level of 192,000 cwt. in 1937. In 1908 a mere 10,000

TABLE

VALUES AND VOLUME OF CHIEF EXPORT PRO-
IN THE TREND OF PROS-

[Figures in italics denote

Years: (Turning points in trend of total exports)	Values of Total Exports of Nigerian Produce	Palm Kernels		Palm Oil		Rubber		Cotton Lint	
		£'000	'000 tons	£'000	'000 tons	£'000	'000 lb.	£'000	'000 cwt.
1	2	3	4	5	6	7	8	9	10
1900	1,858	834	86	681	46	186	2,848	0.5	0.2
		45		37		10	—	—	
1902	2,416	1,275	133	958	64	56	1,017	0.2	0.1
		53		40		2	—	—	
1903	2,202	1,094	132	848	54	77	1,309	7	3
		50		39		4	—	—	
1904	2,605	1,278	140	929	58	182	2,674	15	10
		49		36		7	—	—	
1905	2,386	1,090	109	858	51	248	3,114	16	12
		46		36		10	—	—	
1907	3,612	1,658	134	1,314	65	245	2,144	97	37
		46		36		7	—	3	
1908	3,102	1,425	137	1,155	70	99	1,222	53	20
		46		37		3	—	2	
1913	6,779	3,110	175	1,884	83	90	1,144	159	57
		46		27		1	—	2	
1915	4,874	1,693	153	1,462	73	38	556	56	24
		35		30		1	—	1	
1920	16,717	5,718	207	4,677	85	57	1,102	717	65
		34		28		—	—	4	
1921	8,028	2,832	153	1,656	53	10	191	369	114
		35		21		—	—	5	
1925 ^a	16,906	4,937	273	4,166	128	108	2,128	797	133
		29		25		—	—	5	
1927	15,471	4,439	257	3,375	113	256	4,474	331	100
		29		22		2	—	2	
1929	17,581	4,265	252	3,767	132	164	4,422	543	117
		26		21		1	—	3	
1931	8,553	2,132	255	1,542	118	71	4,080	153	70
		25		18		1	—	2	
1932	9,279	2,696	309	1,514	116	31	1,894	52	24
		29		16		—	—	—	
1933	8,560	1,899	260	1,384	129	33	2,256	193	88
		22		16		—	—	2	
1937	19,242	3,648	338	2,369	146	126	5,764	497	192
		19		12		—	—	3	

[This table was compiled by

Sources: *Nigeria Trade Reports.*

Statistical Abstract of the British Empire.

Nigeria Treasurers' Reports and Reports on Accounts and Finances.

¹ Value of total imports does not include bullion or specie but does include re-exports which may amount to as much as 10 per cent of total.

² Many of the revenue figures in this column must be regarded as approximate, since the items included in revenue in official publications vary from year to year, and

I

DUCTS IN YEARS WHICH MARK TURNING POINTS PERITY SINCE 1900

percentages of total value of exports]

Ground-nuts		Cocoa		Tin Ore		Untanned Hides and Skins		Value of Total Imports ¹	Revenue ² including Gross Re- venue of Nigeria Railway	
£'000	'000 tons	£'000	'000 cwt.	£'000	tons	£'000	'000	£'000	£'000	
11	12	13	14	15	16	17	18	19	20	
4	0.6	9	4	No records before 1906	—	0.3	Not stated	1,735	639	1900
—	—	—	—	—	—	—	—	1,978	732	1902
2	0.3	11	6	—	—	0.4	—	2,128	910	1903
3	0.5	10	6	—	—	—	—	2,423	1,047	1904
5	0.8	19	11	—	—	—	—	2,592	1,035	1905
7	0.8	17	9	—	—	1.5	—	3,840	1,673	1907
18	2	48	19	25	212	3.4	13	4,047	1,636	1908
15	2	51	27	81	545	2.4	10	6,332	3,463	1913
175	19	158	72	568	4,142	166	473	4,984	2,703	1915
3	—	2	—	8	—	2	—	20,763	6,738	1920
72	9	314	182	723	6,545	229	771	10,237	6,436	1921
1	—	6	—	14	—	4	—	14,783	8,269	1925
1,120	45	1,238	1,343	1,786	7,913	667	2,250	14,438	8,729	1927
7	—	7	—	10	—	4	—	13,219	8,703	1929
1,112	51	436	358	915	7,181	263	1,231	6,513	6,732	1931
14	—	5	—	10	—	3	—	7,195	6,900	1932
2,394	127	1,484	1,894	1,738	9,293	641	3,597	6,340	6,750	1933
14	—	9	—	10	—	4	—	14,625	10,400	1937
1,630	91	1,999	1,784	2,287	10,926	626	[4,009] ⁴			
11	—	13	—	15	—	4	—			
2,466	147	2,306	1,105	2,299	15,129	889	[4,637]			
15	—	13	—	13	—	5	—			
1,511	160	1,093	1,056	906	10,794	702	[5,203]			
18	—	13	—	11	—	8	—			
1,874	188	1,461	1,421	580	5,967	582	[4,369]			
20	—	16	—	6	—	6	—			
2,064	205	1,144	1,215	659	5,216	556	[5,410]			
24	—	13	—	8	—	6	—			
4,058	326	3,657	2,064	2,628	15,035	853	[6,366]			
21	—	19	—	14	—	4	—			

Miss P. A. Bower]

in early years the figures were not consistently published for fiscal years. The figure for 1921 covers the period from January 1921 to March 1922. Subsequent figures are given for fiscal years.

³ From 1925 onwards, figures for the Cameroons under British Mandate are included.

⁴ The numbers of hides and skins had to be estimated from 1927 onwards.

Note.—Statistics for the timber trade were not included in this table since the quantity figures stated in the *Trade Reports* are not comparable over the period.

untanned hides and skins reached the ports from the north; by 1913 this number had swelled to 473,000. The ensuing years witnessed a fairly steady increase until in 1937 over six million hides and skins were exported valued at £853,000. The figures for tin ore illustrate particularly well the influence of transport upon trade, but this story will be told by Miss Bower in her chapter in Volume II upon Nigerian mining. The returns from rubber, a product of the southern provinces, which comprised as much as 10 per cent of the total value of exports in 1900, show heavy fluctuations during the period but have tended, in spite of a slight rise in volume, to decline both in relative and absolute importance. This was due to the competition from more efficient producing areas which has driven down the price. The seizure of these areas by the Japanese during the second world war has of course led to vigorous attempts to revive the production of both plantation and wild rubber in Nigeria.

Exports of cocoa, another southern product, have increased steadily until the returns from this commodity in 1937 formed as high a proportion of the total value of exports as palm-kernels, namely 19 per cent. The most important timber exported was mahogany, which is the only one listed by name up to 1920. Timber played its largest proportionate role in exports at the beginning of the century: with a value of £50,000, it represented approximately 3 per cent. From this position it declined to less than 1 per cent before the second world war. Its peak year of value was 1925 when the figure was £307,257. As public taste deserted mahogany, Nigeria was fortunately able to produce some other woods which satisfied it, so that by 1937 this export still stood at £149,666. This does not, of course, represent the total production as by this date there was a growing local trade, which cannot be measured, and this has, of course, greatly increased as a result of the war.

These figures illustrate the fluctuations not only of production but of price and a comparison of these two columns, especially for palm products, and cocoa, will show the disturbing range of these fluctuations, the effects of which, from different angles, will be discussed in this volume by Professor Forde and in Volume II by Mr. Mars.

These remarks upon the export trade have necessarily led us to review this up to the latest available figures and we must now go back to the main story.

The end of the first world war saw Nigeria, after the immediate dislocation caused by general and local hostilities had been righted, ready for a great economic advance. On the political side, the native local governments were beginning to acquire experience and confidence. Administratively, the period saw a large growth in the numbers of British officials, and this, after 1930, was especially marked in the technical departments. The following table indicates the increase in the numbers of agricultural, veterinary and forestry officers in the inter-war period:

AND ECONOMIC DEVELOPMENT

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Department	Numbers of European personnel			
	1922	1929	1932	1938
Agriculture -	20	75	61	82
Forestry -	30	48	45	49
Veterinary -	3	36	31	31 ¹

Thus, despite the retrenchment in the early thirties owing to the great depression, the total membership of these three services in Nigeria was trebled between 1922 and 1938. This period witnessed also great improvements in the training both of administrative and technical officers.

An idea of the stimulus to native production which radiated from the strengthened government services before the war will be given in this volume by Dr. Scott and in Volume II by Dr. Leubuscher, though this does not mean that many sins of omission might not also be listed. Among other results may be mentioned the work of the Agricultural Department in inaugurating and encouraging the spread of mixed farming in the northern provinces since 1928, in developing the trade in ghee or clarified butter from Fulani cattle centred on the department's depot at Vom, and in fostering the cultivation of ginger as an export product among backward pagan tribes in Zaria province. In the southern provinces its achievements included the introduction of the Duchser hand-press, for extracting palm-oil and the establishment of rice as an export and food crop in some of the swamp regions of the south.

Hides and skins which comprise one of Nigeria's most remunerative exports have gained much in value from the work of the Veterinary Department. A preliminary to improving the breed of cattle in the northern provinces was the campaign against rinderpest started in 1925. This was followed by a campaign to improve the flaying and drying of hides and skins. In 1934 a veterinary school was established at Kano for the training of native staff. In 1937 a stock farm was established at Ilorin with money provided by the Colonial Development Fund with a view to improving the breed of tsetse-resisting dwarf cattle in the southern provinces in order to make mixed farming possible there also.

The Forestry Department has done much valuable work in surveying and regenerating the Nigerian forests in addition to those activities which have had a more direct effect upon the economic welfare of the Nigerian. These include the fostering of new export products such as gum arabic and Niger gutta, an ingredient of chewing gum, and an extract of mangrove used for tanning. There has also been a campaign to encourage the use of Nigerian timber in the colony instead of imported wood.

Unfortunately, the inter-war period was marred by the fluctuation of prices, which disturbed the organisation of the firms handling Nigerian trade and bewildered and even embittered the native producers and

¹ See biennial *Staff Lists* of the Nigerian Government, also Jeffries, C., *The Colonial Empire and its Colonial Service*, 1938.

traders. These economic difficulties, and especially the drop in the price of palm-oil, with the concurrent fear that a newly introduced measure of taxation would be extended to women, played a large part in producing the Aba riots of 1929-30. Towards the end of the period, as a symptom of the lack of confidence felt by the native cocoa producers towards the buying firms which had tried to meet their difficulties by forming a produce-price agreement, there occurred the so-called 'cocoa boycott' of 1937. Although this was naturally more important in the Gold Coast, it affected the more limited cocoa region of Nigeria and led to a commission which, as Mr. Mars' chapter in Volume II will show, threw a flood of light upon some pathological elements in West African economic organisation. It was also startling evidence of the power of an economic interest to bind together men of different tribes in a united and sustained, but, happily, orderly movement. The fluctuation of the revenue in this period led first to over-optimism and extravagance and then to a drastic retrenchment of staff and services which disrupted policy and had a disturbing effect upon the officials of the Colonial Service.

A glance at Table I will reveal the troubled economic history of these years. It shows how trade could halve itself and double itself again shortly afterwards with very disturbing effects upon the revenue. There was an important recovery in 1936 and 1937 when the diversification of exports reached their healthiest position, but these years were darkened by the recurring nightmare, as far as local interests were concerned, of competition from plantation palm-oil and by the deeper general shadow of approaching war.

The second world war has affected the territory far more deeply than the first. Politically the population was more able to understand the issues which were not irrelevant to the racial problems in which an educated minority was already interested. Militarily the danger was greater and this led to the need for more solidarity between government and people and to extensive recruiting for distant campaigns. Economically the effects have been deep. There has been a crisis of communications which has isolated the colonies and forced them into a degree of economic self-sufficiency unknown since European trade was first fully developed. This position demanded unprecedented measures of planning and control both with regard to imports—it was necessary, for example, to cut down imports of food by 75 per cent—and also to local production for export as well as for home consumption. Old native industries have revived and some modern ones developed, and there has been a great stimulus to internal and inter-territorial trade. After the loss of the far eastern colonies, certain items of West African produce assumed even greater importance. The British Government, through the Ministry of Supply and the West African Produce Control Board, became the purchaser of the main crops and while its appetite for palm-oil as an ingredient of margarine was unlimited it

found itself obliged at times, for lack of shipping and storage facilities, to destroy a large part of the cocoa crop. Nigeria was asked to double its tin exports, raise tenfold its meagre pre-war output of rubber and greatly increase its output of timber.¹ Imperative military necessities produced a revolution in communications, especially by air, since West Africa became part of the great route which, by-passing the closed Mediterranean, cut diagonally across central Africa, to the omnivorous North African front. In Nigeria alone thirty aerodromes were built, and roads and railways had to be extended.

In order to carry out these urgent and largely economic measures, new machinery had to be created.² A Governors' Conference had been established on the eve of war with headquarters at Lagos. It developed a secretariat in 1941 and threw out a West African Supply Centre in 1942. In June of that year Lord Swinton was sent out as Resident Minister and he rapidly built up a regional headquarters at Achimota in the Gold Coast. It consisted of a War Council, with three committees, one for the Services, one for Supply and Production, and one called the Civil Members Committee which was the name given to the former Governors' Conference. The Minister set up a secretariat which absorbed the Supply Centre and contained representatives of those metropolitan ministries which had interests extending into West Africa.

The relevance to our subject of this story is that the end of the war is most unlikely to write 'finis' to it. It is very probable that parts at least of this machinery will be adapted—and much adaptation will be needed—to purposes of longer term than the war.³ An economist, Professor Noel Hall, was appointed Development Adviser in January, 1944, and he has been followed by a Town Planning Adviser. Important conferences upon economic and social questions have been held and a West African Institute of Cocoa Research has been set up, one immediate task of which will be to deal with the serious outbreak of disease in Gold Coast cocoa. The economic functions of this regional centre have now found their counterpart in the two main colonies: another professor of economics has been appointed Economic Adviser in the Gold Coast, while in Nigeria a new

¹ The difficult problem had to be solved as to how, in the absence of the same compelling sense of danger and patriotism which operated in Britain, greater production could be obtained without giving the reward of imported consumer goods and without incurring too much inflation. We may notice here that war savings in Nigeria had risen to nearly half a million pounds in the middle of 1944.

² See 'The Resident Ministry in West Africa', by Harold Evans, a member of Lord Swinton's staff, in *African Affairs* (Journal of the Royal African Society), v. 43: 152-158, 1944.

³ An objection to this extension of a war-time agency into the post-war period has been made by an ex-governor of Nigeria on the ground that the appointment of another Resident Minister of cabinet rank for this post was unnecessary and would be an embarrassment to the governors and the Secretary of State. *The Times*, Nov. 25th, 1944.

appointment has been made of an officer in charge of planning and development. These officials are now engaged, in close co-operation with their colleagues and with provincial committees, in drawing up comprehensive plans for the development of the territories over periods up to fifteen years. Among many other indications of the way in which war-time experiments are leading on to peace-time measures may be cited the very interesting adaptation of the cocoa control scheme in West Africa to the purposes of orderly buying of the crop and the avoidance of short-term price fluctuations.¹ Finally, an income tax commissioner for West Africa as a whole has been appointed.

These appointments are the West African version of the regional machinery set up to meet somewhat similar needs in the Caribbean, and, in very different form, in East Africa. They are, of course, only the extension overseas of the reorganisation effected at the Colonial Office to enable it to carry out both the short-term economic measures demanded by the war and also the long-term measures announced in the 1940 White Paper.² Much has been said and written about this White Paper and no more is needed here than a reminder to readers that in this Paper the British Government finally renounced the policy which demanded that colonies should be financially self-sufficient unless they fell into insolvency. It allowed the allocation of up to five millions a year for ten years for positive assistance for development with £500,000 a year for purposes of colonial research.³

In spite of the war, a beginning was made both in Whitehall and the colonies with plans for the expenditure of this money. Although the shortage of staff, materials and shipping made it impossible to spend by 1944 more than £2,500,000 out of the possible £22,000,000 that could have been spent, the very act of planning had made it clear how much more money was required than the sum voted in 1940. On February 7th, 1945, therefore, the Secretary of State for the Colonies introduced a measure to extend the Colonial Development and Welfare Act up to 1956 and to spend £120,000,000 upon development and research in this period.

By a useful amendment, balances can be carried forward and as much as £17,500,000 may be spent in one year on development and £1,000,000 on research. We may notice that this bill was warmly welcomed in all quarters of the House of Commons and was passed unanimously without amendment on February 16th, 1945. In the debate members showed a clear realisation that it was easier to vote money for the colonies than to

¹ *Report on Cocoa Control in West Africa, 1939-49*, Cmd. 6554 (1944).

² *Statement of Policy on Colonial Development and Welfare*, Cmd. 6175 (1940).

³ The meagre and restricted help offered under the former Colonial Development and Welfare Act of 1929 was, of course, the first hesitating step in this direction.

spend it, and many questions were asked as to whether the Colonial Service was properly trained and organised for the large new economic tasks confronting it.

In order to carry out the 1940 Act, Committees upon Colonial Development and Welfare, Colonial Research and Colonial Products were set up. But these are only part of the re-organisation of the Colonial Office in recent years for its rapidly expanding social and economic functions. The process had been begun before 1939 but the serious questions of communications and supply raised by the war caused a rapid development of metropolitan machinery. It is not out of place in a book dealing with the present and future economics of a dependency, the higher policy of which is subsidised, inspired, or at least guided, from Whitehall, to devote a few words to this new machinery.

The Colonial Office at the end of the last war carried out almost the whole of its work through geographical departments. There was, however, a General Department and from this parent body new departments have sprung to promote and stimulate the new functional, specialist services which have been developed, especially in the welfare and economic fields, to meet what are now recognised as the common needs of the colonies. A full time Financial Adviser was appointed in 1931 while an Economic Department came into being under Sir Philip Cunliffe Lister (now Lord Swinton), who was especially interested in the economic development of the colonies. A Social Services Department was set up in 1939, and shortly afterwards a Business Adviser was appointed. To-day, mainly as the result of war-time developments, there is an Economic Division which comprises three departments under Assistant Secretaries, the first dealing with supplies to the colonies; the second with production in, and exports from, the colonies and the third with finance and development. In addition to this, another Assistant Under-Secretary deals with long-term economic questions.

Side by side with these extensions of administrative machinery in the colonies and in the Colonial Office, the system of advisory committees has also seen rapid development. These standing committees, composed of nominated unofficials chosen mainly as experts, but also as representatives of various interests, sit with those officials who are most concerned with the subject, to advise the Secretary of State. There were before the war, Committees upon Health, Education, Agriculture and Animal Health. Since the war it has been found necessary to set up committees upon Labour, Welfare, Fisheries, and Air. Finally—and most relevant to our subject—an Economic Advisory Committee has been established, and at the beginning of 1945 Sir Frank Stockdale was appointed the first Adviser on Development Planning.¹

¹ The terms of reference for this Committee are as follows: 'To advise the Secretary of State on such questions of economic policy in relation to the Colonial

The war, it will be seen, accelerated very rapidly the building of colonial, economic and social agencies which had begun before 1939. Their construction was, of course, a response to the deep change in the conception of the functions of the state, the effects of which, after an interval, reached the colonies overseas. For a long period, following the intense economic pre-occupation of the mercantile era, the British colonial authorities, apart from the provision by state action of essential public works, concentrated their main attention upon the political aspects of their subjects' affairs, leaving the often more powerful and penetrating economic forces to operate upon them almost without regulation or understanding. Our selected territory, Nigeria, as it happens, shows two exceptions to these generalisations in that its government itself undertook the exploitation of the Enugu coalfields and also, in 1911 and 1920, refused to allow the Lever interests to establish plantations in the Protectorate. It was, however, in general, contrary to long prevailing ideas that the imperial government should do more in the colonies than play the part of a somewhat inattentive umpire while private traders and settlers on the one side, and native producer-consumer-labourers on the other, played out their economic game.

This period has now come to an end. It does not appear, however, in view of the important constitutional advances that have marked the last two years, that the new swing-over towards the economic and social aspects of colonial policy is going to be at the expense of political development. The new policy shows, indeed, an appreciation of the unity of the two. It has arisen not only from the realisation that positive services, scientific, energetic and generous, are needed to overcome the economic backwardness of the colonies but also that colonial peoples cannot advance towards greater independence while they remain in complete economic Dependencies as he may refer to the Committee, including particularly matters of general policy arising on programmes of economic development.'

Its membership in 1944 was: The Duke of Devonshire (Parliamentary Under-Secretary of State), chairman; Sir Gerald Clauson (Assistant Under-Secretary of State, Colonial Office), vice-chairman; Lord Hailey (chairman, Colonial Research Committee); Sir Bernard Bourdillon (ex-Governor of Nigeria); Sir William Goodenough (chairman, Barclays Bank (Dominion, Colonial and Overseas)); Sir John Hay (managing director of Guthrie and Company and chairman of rubber and other companies); Sir Hubert Henderson (Professor of Economics in the University of Oxford); Sir Harold Howitt (partner in Peat Marwick Mitchell and Company, chartered accountants); Mr. A. Dalglish (member, Colonial Labour Advisory Committee); Mr. E. F. M. Durbin (senior lecturer in Economics at London School of Economics); Mr. J. Hallsworth (secretary-general, National Union of Distributive and Allied Workers); Mr. J. McFadyen, J.P. (director, Co-operative Wholesale Society); Mr. J. MacLean (chairman of Overseas Committee of Association of British Chambers of Commerce); Captain B. H. Peter (managing director, Westinghouse Brake and Signal Company); Professor Arnold Plant (Professor of Commerce in the University of London); Professor L. C. Robbins (Professor of Economics in the University of London).

dependence and poverty. 'Our objective', said Colonel Stanley in the House of Commons, on July 13th, 1943, 'in the Colonial Empire must be to make the colonies self-supporting. I do not mean self-contained. I do not mean a narrow autarky. I mean colonies which are able to support an adequate and sound economic basis which will meet the needs of Government and peoples and which will give a reasonable standard of life. It is pretty clear that unless we succeed in doing this any talk about self-government is really humbug.' Again, on the same date, he said, 'It will not be possible for them' (the colonies) 'ever to reach or to maintain any reasonable standard without some increase in their present industrialisation.' He indicated industries for processing natural products whether for home consumption or for export and simple manufactures which do not demand the import of large quantities of raw materials, and, for which the territory can offer an adequate market.

The new economic interest in the colonies is thus expressed in very different terms from those of 1900 or even those of the Empire Resources Development Committee of 1917, so ably castigated by Professor Hancock.¹ The new policy is not one of the exploitation of an imperial estate mainly in the interests of the owners but of greatly quickening the development of colonial peoples in all aspects of their lives through the application of the capital, expert guidance, and new economic and administrative techniques of the civilised world. There is, of course, the danger, should measures bettering economic exchange on the international level fail, that an anxious Britain, impressed by the part the colonies can play, both economically and strategically, in maintaining her prosperity and strength, might tend again to stress her own short-term needs at the expense of their long-term possibilities. She might thus attempt to tie and bind just when, as the history of the Dominions has shown, true self-interest as well as political ethics should prompt her to loosen.

It is against this new starting point in both ideas and organisation that the studies of Nigeria's economy which follow should be seen. This background is very necessary. This is an economic book written mainly by economists and it is more than time that economists should be invited to apply their science to the backward conditions and, in some ways, peculiar problems, of the colonies. Yet students of anthropology and history must plead that these other approaches, necessarily absent in this book, should not be neglected by those now beginning to throng down the modern trunk-road of economics. We are, I think, very fortunate in being able to begin our book with a study by an anthropologist, since no general economic policies for Africa can be sound which do not take account of the obscure and intricate web of household economic life which Professor Forde has attempted to unravel. I say 'attempted' because, as he has shown, the materials for such knowledge are still sadly inadequate both in socio-

¹ *Survey of British Commonwealth Affairs*, Vol. II, Part 1, 1940, pp. 106 ff.

logical depth and geographical extent. They can, indeed, only be built up by prolonged, intensive, and expert investigations.

This anthropological approach is not, however, the only complement required. The very value of the economist's services as he suddenly turns the white light of his scrutiny from mature and wealthy nations upon a stretch of tribal Africa is in the fresh, arresting character of his revelation and the boldness and comprehensiveness of his solutions. It is the task of the historical student to uncover the foundations of this situation which lie in the past. He will not, therefore, see the same Nigeria as that seen, for example, by Mr. Mars, whose contribution appears in Volume II. When he reads condemnations, explicit or implicit, of the government and the traders for their acts of commission and omission, he remembers the limited framework of ideas and facilities within which they groped towards the present situation. The poverty of tropical Africa, which may come with a sense of shock to the economist who sees it for the first time and so give unwarranted sharpness to his criticisms, is the almost universal and immemorial condition of the continent, one which the British Government has, for lack of communications and close administrative grasp, only been able to tackle effectively for some twenty years.

Similarly, it is only now that the education system is beginning to allow any considerable number of Africans to play the important part in the economic counsels and affairs of their country that, within the restrictions of the colonial status, they have so long played in the political. The reason, of course, lies in the novelty and complexity of the new economic system of exchange which, as this book will show, has been woven above the old subsistence economy. This situation is now changing, and the war, with its demand for economic understanding and partnership from the Africans, has forced the pace of change. Debates in the Legislative Council and articles in the local press during the past few years bear witness to the growing African appreciation of economic affairs, as do the records of, for example, the meetings of Yoruba chiefs at which the problems of secondary industries, palm-oil and rubber production and the employment of demobilised soldiers claim chief attention. In the future, under the new cocoa purchasing scheme, representatives of African producers are to sit upon the territorial marketing organisations. The advance which is certain to follow the reports of the Commissions on Higher Education in the Colonies, and on Higher Education in West Africa, will result eventually in increasing the numbers of Africans ready for more responsible posts in economic as in other positions, official and unofficial, in their own country.

The Africans will thus make a third party of increasing importance in deciding for their country the development policy which has hitherto been supplied by the government and by the extra-territorial companies working sometimes together, often in detachment and occasionally even in

opposition. Much of the contents of this book will bear upon the record of these two forces and one of the largest questions that will be raised in Volume II will concern the relative parts they should play in the future. The fundamental issue as to the degree to which private enterprise is to come under state control will not be made in Nigeria: it will be made in Britain and later adapted to Nigeria and other colonies. But dependent tropical areas present the problem in a special form. This is due to certain peculiarities in the position of the three main parties concerned, the government, the capitalists and the public, when contrasted with their respective positions in England. Thus, the government, though the Crown Colony forms are greatly tempered in practice, is under the ultimate control of an external authority: the big firms are branches of large enterprises domiciled overseas; while the public is markedly ignorant and helpless in the face of economic forces. There are, of course, other special characteristics of a tropical dependency which will appear in these pages, but these are enough to suggest that the case for state control of private enterprise in Britain may have additional arguments in its favour in colonial conditions.

There are, however, certain other characteristics which, while they do not necessarily cancel out those arguments for a very much higher degree of state control, do at least suggest that in a dependency such as Nigeria, this could not be a very rapid or easy achievement. First, we may ask whether the government has the capacity for the proposed rôle. While it may be admitted that the re-organisation at the Colonial Office and the reinforcements to the Colonial Service that we have noticed have slightly strengthened the government in this direction, it must be remembered that the number of officials in a large dependency like Nigeria still represents only a skeleton service in the face of the immense tasks that lie before them and, further, that this service is still built up round a main core of general administrative officers. Very great changes in the structure of the administration and in the qualifications of officials would be required before the government was ready to undertake a major share in the development of industry, and, still more, in the conduct of the trade of the country.

The technical competence might not, with time and experiment, be unattainable. But would the government, we may go on to ask, have the moral authority to wield their new powers? It may appear mechanically possible for an autocratic foreign government to carry through the most comprehensive and penetrating plans which it can devise for the good of its subjects. In fact, however, the position of a foreign autocratic government, especially, perhaps, a British government, is far from strong. It cannot yet draw full strength from the normal source of political power, the will of the governed, while its main existing constitutional source, the will of the British people as expressed in Parliament, gives a very intermittent and inadequate supply. It could never use the urgent and uncompromising

methods by which the Bolshevik government carried out an abrupt economic revolution amongst the Russian and Asiatic peasantry: on the contrary it is obliged to consider very carefully the opinions and possible reactions of tribes, many of whom are much more ignorant, conservative and disunited than the Russian agricultural masses, and about whose heterogeneous economic customs and attitudes, as Professor Forde's chapters show, it has still much to learn. This is true, above all, in the economic and social sphere, where measures pervade and penetrate the most intimate aspects of the people's lives. If, however, this political weakness of colonial government is more serious than the technical, it is not one before which we should sit down in despairing acceptance, and if the historians and anthropologists were inclined to do so, the economists would rightly goad them with the dangers of neglecting reform and lure them with the great possibilities of pursuing it.

The only way out of the difficulty is, of course, along the road of advance towards self-government, and the proposed constitution for Nigeria would cover a large stretch of this road. Because the control of economic and social matters is the most difficult among the growing responsibilities of citizens, as, indeed, we in Britain are realising to-day, a colonial government should give its most careful attention to training the people in these functions, not only through formal education or general instructions, but by every means in its power, including experiments in economic delegation to all grades of local government and many kinds of economic association. Here Mr. Mars' *impatience for Africanization* is easy to understand and it may be that the mistake, which the British have in the past been reluctant to make, of giving responsibility too soon, may be less damaging than that of giving it too late.

It seems, however, that there must be an interval during which the need for a vigorous economic policy will outstrip the capacity of the government to carry it through or of the people to understand it. It may be that in this period it would be unwise for what is, after all, a foreign government even to attempt to add to its political power the whole range of social and economic power now within the grasp of the state. The effect of such a comprehensive bureaucratic control (if, in spite of the difficulties that have been pointed out, it could be achieved) might be too stifling for those under its pressure. In this situation, since the inevitably growing nationalist movement for self-government would find its sole target in the government, it might be directed with enhanced bitterness. The old conception, deriving from situations in which the people were not yet fully sovereign, of the need for checks and balances as between political and judicial power, may under modern conditions, at least in colonies, be valid for political and economic power. It is thus possible to argue that the dualism between the government and the companies may for a time have political advantages both for the government and the people.

Whether it has economic advantages must be discussed by the economists and much of their contribution to this book will deal explicitly or implicitly with this question. One last consideration may, however, be raised here. Most economists would probably agree that in the colonies, subject to new safeguards against abuse, private capital is needed in large quantities to supplement public capital. Conditions must therefore be sufficient, if only just sufficient, to attract it.¹ The long-term development plans which are now being drawn up in Nigeria as applications for Colonial Development and Welfare funds will almost certainly be concerned mainly with fundamental public works such as water supplies, communications, and government buildings. A statement has, indeed, just been issued announcing a scheme for the building of 48,000 miles of roads in Nigeria that is to cost £9,000,000, half of which is to be provided from local and half from imperial funds.² In the face of this bill for one part of the essential foundation of public works it would appear that the commercial and industrial superstructure to be built upon it will have to be financed by private capital. If this large task is to be left to the companies their chief request will probably be for some continuity of policy within which to make their plans. The difficulty here is, of course, the inevitable rise of colonial nationalism: the colonial government cannot foresee the exact rate and character of this growth or, therefore, of the periodic adjustments that it will have to make to meet it.

The position is all the more difficult in West Africa because of the strong probability that nationalist sentiment will be directed against the trading companies and especially against the chief of these, the United Africa Company. The psychological situation in this region as between the Company on the one side and many of the people and even of the officials on the other might almost be characterised as pathological. If (as Mr. Mars himself advocates in Volume II) the companies are to continue to play a large part in the trade and industry and so in the capitalisation of Nigeria, then there is added reason to bring out the full facts of a situation which, if not illuminated, must impede economic progress. A commission of enquiry into the organisation and methods of trade in West Africa, extending the light generated by the 1938 enquiry into the cocoa trade, would dispel much of the mystery and secrecy that hangs about this whole subject on the Coast. All parties would gain from such an enquiry. The companies, and especially the U.A.C., would stand to gain, since it is quite unlikely that the facts could support the more extreme views about its operations that are widely held: the people, for their part, would gain in economic education, and might be partly saved from the emasculating effects of the belief, inevitably held by peoples in their status, that all the

¹ See a most interesting address by Lord Hailey on 'Capital and Colonies', reported in the *Journal of the Royal Society of Arts*, v. 91: 474-485, 1943.

² *The Times*, Dec. 5th, 1944.

defects of their position are due to the foreigner; while the government, for its part, would be able to see its way more clearly and to act with greater confidence. The whole stage would indeed be cleared and lit up for the powerful economic action which is now being planned and which must succeed the war.

Economic progress, if economic education goes concurrently with it, should greatly stimulate the speed of political advance in Nigeria. Common economic interests, as the examples of India and Palestine show, have proved themselves too weak to unify where racial or religious differences have become hardened in opposition. But this is not yet the position in Nigeria. We may therefore hope that in this malleable stage of development, an economic advance in which the people co-operate with each other and with the government, might do more than lift the people out of the material poverty described in this book: it might also help to unify them. The political forms and activities of this territory are to a large degree linked with the past and are, and to some extent must be, conceived of at present in terms of tribal boundaries and loyalties. Upon this stabilising political foundation economic forces may add binding, levelling and modernising influences. These should give the people new common interests, which may gradually transcend the political and religious differences which prevent Nigeria, like other African colonies, from being a nation.

2. PHYSICAL CHARACTER, COMMUNICATIONS AND PEOPLES

BY DARYLL FORDE

PHYSICAL CHARACTER

Nigeria, the largest of the several British political units in West Africa, is a segment of the extensive belt of habitable country some six hundred miles deep, which extends for 1,500 miles between the Gulf of Guinea and the Sahara Desert. A compact area of some 373,000 square miles lying between approximately 4° and 14° N., and exhibiting in its relief the characteristic juxtaposition of upland blocks, wide basins and coastal plain, Nigeria presents a representative cross-section of the physical conditions in the Guinea lands.

Rainfall depends on a seasonal inflow of humid air from the Gulf of Guinea and diminishes in duration and intensity towards the interior. This gives rise to a gradation of vegetation of considerable economic significance, ranging from dense forest near the coast to meagre grassland and scrub on the Saharan margin. The seasonal variation in temperature increases inland as the rainfall falls away, but temperatures are everywhere high over the greater part of the year and are not limiting factors of crop production.

The distinction between the wet and the dry seasons is generally very marked. The latter extending from October to April in the north and from November to March in the south, is frequently referred to as the *harmattan* season from the dry north-easterly winds characterised by a thick haze produced by minute dust particles and very low humidity. This leads to extreme diurnal variations of temperature so that the days are intensely hot, but the nights distinctly cold.

There are considerable variations in natural soil fertility which, in the general absence of adequate artificial fertilising, exercise a great influence on agriculture and the character of export crop production. In general, soils are poor. There are no extensive cultivable plains and where, as over considerable areas in the south, the period of bush fallow has been severely reduced through pressure on land, serious soil degradation and excessive erosion have developed. Soil erosion in consequence of over-grazing has also been reported as a serious danger in some parts of the north.

Although the boundaries between the major orographical features are not in general sharp, and both climatic and vegetational conditions change but gradually from north to south, the following physical regions can be usefully distinguished:¹

1. The coastal belt of swamps and mangrove forest is for the most part only a few miles deep but it extends inland over the tidal flats of the vast Niger delta for some sixty miles. Except where it has been reclaimed and embanked in a few port areas, this mangrove belt is very thinly peopled and generally undeveloped.

2. The belt of naturally dense rain forest which extends inland for a distance of from 50 to 100 miles corresponds fairly closely with the coastal plain lying south of a line running approximately through Ibadan, Ondo, Onitsha and Afikpo on the Cross river. Dense riverine forest also extends northwards up the Niger valley beyond Idah. This area, in which rainfall increases south-eastwards from about 50 to 100 inches per annum and the dry season is confined to 2 or 3 months, is, in general, one of continuous settlement and much of the virgin forest has been replaced through human interference by secondary growth which includes a great wealth of oil-palms, by far the most important natural resource. Typical mean annual rainfalls are: Lagos, 72; Ondo, 55; Port Harcourt, 98; Calabar, 125 inches.

3. The hinterland east of the Cross river is more elevated, the land rising within 30 miles of the coast to considerable heights of from 1,500 to 2,500 feet in general elevation in the Oban hills and Rumpi mountains, while the somewhat isolated Cameroon mountain, immediately behind Victoria, in the extreme south-east, reaches 13,500 feet. With few exceptions, notably the development of plantations on the slopes of Cameroon mountain, this area in Calabar province and the Kumba division of the

¹ Maps I and II at back should be consulted.

24 THE COUNTRY: OUTLINE OF POLITICAL

mandated Cameroons is thinly settled, undeveloped and inaccessible. The mean annual rainfall at Debundsche is 356 inches.

4. The low hilly tableland, with considerable areas over 1,200 feet, which extends from east to west on either side of the boundary between the Northern Provinces and the Western and Eastern to the south, is one of varied vegetation, including considerable tracts of open deciduous forest in the south while parkland and expanses of tall grass predominate further north. The depression formed by the valleys of the confluent Niger and Benue rivers is not, apart from considerable tracts of riverine forest markedly distinct in vegetation and land use from the more elevated country to the south. Throughout this wide 'middle belt' the physical conditions underlying the southern forest economy gradually fade out as the precipitation is reduced and is concentrated in fewer months of the year. Typical annual rainfalls are Oyo, 46; Lokojo, 50; Ilorin, 51 inches.

5. The eastern hills of the southern mandated territory of the Cameroons rise to the remote elevated and damp forests and grasslands of the Bamenda plateau (over 6,000 feet) and the Shebshi mountains (over 4,000 feet). Annual rainfall at Bamenda averages 105 inches.

6. Apart from the Bauchi, or Jos plateau (see below), the vast area north of the Niger-Benue confluence is, despite local variations due to difference in altitude, aspect and lithological conditions, one in which rainfall and vegetation grade slowly down towards the north. While the south with a rainfall of some 40 inches is naturally clothed in open woodland resembling an English orchard, the country on the northern border, with light soils and less than 30 inches of rain almost all falling in five months from May to September, has but an intermittent covering of poor grass and scrub with occasional drought resistant trees and thorn-bush. There are in places bare sandy tracts. Typical rainfalls are: Zaria, 47; Kano, 36; Sokoto, 28; Maidugari, 25; Hadeija, 23 inches.

7. In the centre of the northern provinces, the Jos or Bauchi plateau rises with steep scarps on the east and south to a general altitude of 4,500 feet. Elevation and lithological conditions have, in combination with human interference by burning and grazing, reduced the vegetation on the thin soils of this undulating granitic plateau to short grass, and woodland is largely confined to the valleys. A combination of inaccessibility and peculiar physical conditions has preserved on this plateau ethnic groups with distinctive economic and other cultural features.

COMMUNICATIONS

A great part of Nigeria drains to the lower Niger which, with its east bank tributary, the Benue, forms a wide open Y, the tail of which bisects the southern part of the territory and ends in the ramifying distributaries of the Niger delta. Unfortunately this Niger-Benue river system has

not provided Nigeria with a great commercial waterway. Difficulties of navigation in the rivers, accentuated by the great seasonal differences in level, and the fact that the more developed and densely peopled parts of the north, in Kano and Zaria provinces, and in the south-west, in the Yoruba provinces, lie far from these waterways, have greatly reduced their significance both before and during the period of British control.

Shifting sand-bars at the mouths of Niger distributaries and of the other Nigerian rivers entering the Bight of Benin have also hampered the development of river ports which are still restricted to sea-going vessels of comparatively shallow draft. A number of trading ports, among them Forcados, Warri, Brass, Degema, Bonny were early established on the Niger delta, and also, to the west at Lagos, at Sapele on the Benin river and to the east at Opobo on the Imo river, and at Calabar on the estuary of the Cross and Calabar rivers. From all these a considerable native canoe trade up-river developed in the period of the slave trade and continued in connection with the palm-oil traffic in the later nineteenth century, but it did not penetrate far into the interior. Later the Niger Company from its river post at Burutu, five miles above Forcados on one of the main Niger distributaries, developed a service by flat-bottomed boats which maintained a considerable river traffic for some 200 miles up stream to the Niger-Benue confluence at Lokoja. The lower Niger is navigable for steamers of 7 ft. draught up to Jebba during the high water season from July to October but the rapids above Jebba render the river impassable to all but risky navigation by canoes. A draught of only four feet up to Lokoja is to be expected during the low water season from March to May, while the channel varies according to the shifting of sand banks from season to season. Flat-bottomed boats can, however, reach Jebba and Kaduna, the administrative capital of the northern provinces, at all seasons. The Benue is navigable to Garua, above Yola near the French frontier, by steamers of 7 ft. draught in August and September during the high water season, but for most of the year only light flat-bottomed craft can be used. Beyond Garua falls block the channel.

To tap the resources of the country lying on either side of the lower Niger and to link the north with the coast two intersecting railway routes run inland from the modern ports of Lagos in the west and Port Harcourt at the eastern margin of the Niger delta (see Map I). The western line running through the Yoruba provinces crosses the Niger at Jebba and proceeds to Minna, where it is joined by the older stretch of line built from the Niger river port of Baro. From there it goes on to Kaduna, Zaria and Kano, finding its terminus at N'guru in the north-east near the French frontier and just across the boundary of Bornu province. The eastern line from Port Harcourt passes through the Ibo country, crosses the Benue by the most recently built bridge at Makurdi to join the western line at Kaduna. This line connects with the light railway built

earlier in connection with the development of tin mining, which loops across the Bauchi plateau to Zaria. From Zaria a line runs north-west into Sokoto province with its terminus at Kaura Namoda about 100 miles short of Sokoto.

This railway system, important as it has been in the transport of equipment for development and in providing an outlet for the tin, cotton and ground-nut exports of the northern provinces, would by itself be quite inadequate for the maintenance of administrative and commercial communications. During the last 20 years and particularly during the second world war it has been extensively supplemented by motor roads (see Map I) and there are now about 16,000 miles of all-season road and about 7,000 miles of dry-season motor-routes.

In the north a system of all-season trunk roads traverse the large provinces of Sokoto and Zaria in the west and Bauchi and Bornu in the east. The number and extent of the all-weather roads have been considerably increased in recent years with a growing network of dry-season road links to outlying districts.

In the south a much closer network of all-season motor roads has been constructed in the areas of denser population. The cocoa-growing area in the south-west is fairly well served by roads linking outlying areas with the railway and with the coast, while the country on either side of the Niger delta, and especially the large densely populated triangle south of Enugu between the Niger and the Cross river, has a comparatively close road network leading to the coast ports. Even in these more developed parts of the south and in the country round Kano, where the road network is closest, it does not in general exceed 1 mile of road per 10 square miles of country, a low figure by European standards. Trunk roads to provide the country east of the Cross river, and especially the southern parts of the Cameroons mandated territory with links to the west and to the east, were under construction at the outbreak of the second world war.

THE PEOPLES

It will have become clear from the historical outline which preceded this section that the most significant distinctions among the people of Nigeria are those which differentiate the Moslem peoples of the centralised native states of the north from those of the less elaborately organised communities of the south (see Map IV).

There are considerable differences in racial type among the peoples of Nigeria, but these do not generally form the basis of ethnic distinction except in the case of the Fulani. The pastoral Fulani, who preserve the lighter skinned, less negroid physical characteristics of this immigrant people, retain some sense of racial superiority. But the settled Fulani aristocracy in the emirates have, in consequence of extensive miscegenation, more negroid features.

The northern Moslem states fall into two groups. To the west the predominantly Hausa-speaking peoples have, since the *jihad* of the early nineteenth century, been governed by a Fulani aristocracy. The Hausa country was at the time of British intervention already divided into a large number of semi-independent emirates, but the Moslem Fulani ruling class continued to accept the religious leadership of the Emir of Sokoto—the Sarkin Musulmi. The Kanuri people of Bornu in the north-east on the other hand are subjects of the Shehu of Bornu who occupies a somewhat similar position with regard to the Moslem peoples of the entire Chad region. The Fulani emirates often include considerable populations that are neither Fulani nor Hausa and these, in some cases, especially towards the south, form the great majority of the population. Thus the emirates of Ilorin and of Bida consist substantially of portions of the Yoruba and Nupe-speaking peoples respectively. Although partly Moslem (though this religion is often only nominal) these peoples differ among themselves and from the Hausa in many cultural features including some details of economic organisation. There are, furthermore, in the north the pastoral and largely non-Moslem Fulani as well as the negroid Shuwa Arabs in the vicinity of Lake Chad and a number of comparatively small autonomous pagan communities on the Jos plateau in the Adamawa hills and elsewhere.

In the south the recent administrative division into western and eastern groups of provinces roughly corresponds to a difference in the scale and degree of centralisation of indigenous social organisation which is of considerable economic importance. Its significance will become clear in the subsequent discussion of the native economies. Broadly speaking, the country west of the Niger is organised into substantial communities embracing several large towns. Such are the Yoruba chiefdoms of Ijebu-Ode, Abeokuta, and Oyo, and the culturally related Edo-speaking chiefdom of Benin, which, as has been seen, provided a foundation for the modern system of native administration.

The peoples of the Niger delta, however, such as the Sobo, Jekri and others, were formerly divided into small autonomous communities embracing only a few villages and this pattern of social organisation is generally characteristic also of the three million Ibo-speaking peoples and the smaller Ibibio group further south-east who together occupy the forest belt between the Niger and the Cross rivers. Further east the cultural diversity and political fragmentation is even greater. A large number of peoples mostly numbering only a few thousand, distinct in language and social structure and often subdivided into independent village communities, are found in the country between the Cross river and the French Cameroons border.

The last census, that of 1931, estimated the population (including the

28 THE COUNTRY: OUTLINE OF DEVELOPMENT

Cameroons territory under British mandate) at 19,928,171, the majority of which may be divided into ten main groups as follows:

<i>Tribal or Language Groups</i>	<i>Thousands</i>
<i>Northern Provinces:</i>	
Hausa	3,604
Fulani	2,025
Kanuri	931
Tiv (Munshi)	574
Nupe	326
<i>Western Provinces:</i>	
Yoruba*	3,166
Edo	508
Ijaw	156
<i>Eastern Provinces:</i>	
Ibo	3,173
Ibibio	750
Other smaller tribal groups	4,683

*(Including those in N. Province of Ilorin).

According to this census, which is admittedly very approximate, the distribution of territory and population among the main administrative units was:

	<i>Area</i> (<i>'000 sq. miles</i>)	<i>Population</i> (<i>'000s</i>)
Northern Provinces	282	11,435
Western Provinces	45	3,803
Eastern Provinces	46	4,690 ¹
Total	373	19,928

¹ For a critical commentary on these figures see Perham, M., 'Census of Nigeria', *Africa*, v. 6: 415-430, 1933.

PART ONE

THE NATIVE ECONOMIES

BY PROFESSOR DARYLL FORDE

Chapter I

INTRODUCTION

1. IMPORTANCE OF SOCIAL FACTORS

The economic development of Nigeria presents, like that of any other country, not merely a technical problem in the discovery, exploitation and marketing of resources through the most efficient mechanical methods and economic organisation; it involves also the aptitudes, habits and sentiments of the people, which set limits to the character and direction of both technological advance and economic organisation.

Although the need for the application of more productive techniques and for better integration of the economic life of Nigeria in the wider world economy is pressing, the economic activities of its peoples are still to a very large extent organised within a social and mental framework which is, by western standards, primitive. The relations between persons and between groups, the scales of values by which achievements are judged and the goals towards which effort is directed have been developed in small-scale societies. Notions of economic advance through technical and social change have necessarily been narrowly restricted as to space and time. Customary scales of value, patterns of activity and forms of organisation have the validity of traditions which, however recent in historical fact, are for the people themselves the immemorial framework of their lives. Links between means and ends are, by western standards, simple and direct: the future which can be envisaged is only the day after tomorrow and the social framework which is felt to be relevant is largely restricted to the village community or the local group. Even the small minority—the wholesale trader, the agent of a European firm or the clerk in a government office—who have penetrated a wider economic system and grasped some of its implications, are nevertheless still largely dominated by the values and organisation of the native community in which their social status and prestige, their self-respect and their self-importance are determined and can find expression. But a community is a going concern. The aptitudes, the values and the relations of its members are sub-

ject to a continuous conditioning. These can be modified but can never be ignored, still less opposed, in attempting to secure either economic or political development without risking not only the shipwreck of well-intentioned plans but the disruption of the society itself.

Of the aptitudes of the peoples of Nigeria, in their more ultimate sense as determined by physiological and mental capacities, it is difficult to say more than that any preconceptions of permanent inferiority must be rigorously excluded. Such physiological and psychological tests as have so far been devised and the records of intellectual ability, manual skill and preservation of individuals and groups have failed to substantiate any racial as distinct from present cultural inferiority of the negro peoples of Africa.

While it can be confidently asserted that individual Africans have shown high qualities of inventiveness, perseverance, ability in organisation, and intellectual acumen, it may be that the frequency of high qualities in such faculties is lower among them than in white populations. But such an assumption is unverified and is likely to remain so as long as Nigerians like other African peoples continue, through differences in economic development and social organisation, to display their abilities on a cultural plane so different from that of literate western communities. At the same time there can be no doubt that these abilities are of sufficiently high level to make possible the development of large, stable and self-conscious communities and the achievement of a far higher standard of living.

The existing social and cultural situation, however, at once sets limits and provides special opportunities particularly with regard to techniques of production and the scale of social organisation. These human conditions are just as important for the consideration of economic development as the physical resources of the country or the levels of capital investment or even the amount of technical training and supervision which can be provided. Far-reaching technological transformations must involve great changes in the scale of group loyalties and the relative prestige of different forms of work and social activity. The impact of new techniques often leads to socially destructive individualism and conflicts of loyalties.

To secure a satisfactory social adaptation to rapid technical and economic changes, two conditions must be fulfilled. First, the new functions must, so far as possible, be attached to existing social institutions; otherwise functionless, dispossessed, and therefore obstructive organisations will be left to impede the new developments. This is the way, moreover, to ensure that the activities of the more capable and energetic people, who are in the vanguard of economic change, do not become independent of the salutary restraints of group standards. An instance of failure in this respect is seen in many parts of southern Nigeria, where traditional guilds of smiths have decayed, leaving their members impoverished and threatened

with social degradation, while new unorganised classes of motor mechanics or tinsmiths have come into existence, to the loss of social solidarity and of standards of craftsmanship.

Secondly, there is need for the gradual integration of the small groups, whether territorial or vocational, which were appropriate to the earlier, less complex economy, into larger and more comprehensive ones. Otherwise economic change may easily lead to internecine struggle for dominance among them—a struggle which results not only in loss of well-being and security by the members of unsuccessful groups but also in a less efficient, because economically less productive transition to a new social pattern. The problem therefore is to secure progressively higher levels of group organisation to which the loyalties and sense of interest attached to existing smaller groups may be in part transferred. Nigeria, again especially in the south, abounds with instances in which new economic opportunities, as for example in the production of oil palm products and cocoa or in the establishing of wider markets for imported goods, have led not to a reduction but to an intensification of faction within existing communities and to jealous, non-co-operative rivalry between them. Such manifestations are not to be regarded as evidence of the low intelligence or social ineptitude of Nigerians. They are typical social reactions to accelerated economic change where there is little grasp of the nature and long-term effects of the forces involved, and can be recognised in our own history as well as in the African bush. A responsibility lies upon government to mitigate as far as possible these disruptive consequences of economic development. A first need is for education among the adult population and especially its leaders both traditional and parvenu, for the understanding of their social and economic environment; another is for more foresight in many spheres of development from the modification of land rights to the administrative reorganisation of considerable areas in which it is desirable to promote both economic integration and a wider sense of community. All this demands an increase in trained administrative, educational and technical personnel for the manifold tasks of development; but it also requires first and above all careful investigation of actual social and economic situations and trends.

The empirical data required, however, which even in western countries are far from complete, are often seriously lacking for colonial territories. Existing levels of output, and the extents to which they would be changed by alterations of technique or organisation, are largely unknown. A programme of social and economic surveys remains for Nigeria, as for so many colonial territories, very largely an urgent task for the future. Meanwhile, however, miscellaneous sample surveys and more general studies of many kinds carried out for various purposes by government officials, social anthropologists and others provide a body of material from which some attempt can be made to sketch the broad lines of the present situation.

Such a sketch, subject to the severe limitations imposed by wartime conditions of interrupted work and difficulties of communication with a distant territory, is attempted in this survey of the native economies of Nigeria.

2. COMPONENT ELEMENTS OF THE NATIVE ECONOMIES

It will be useful at the outset to sketch in the broadest way the leading features of the present economy of Nigeria. It may be regarded as comprising three main elements. In the first place a very great part of the time and energy of the majority of the people is devoted to the production of goods and services which are consumed by the producing group itself. These activities involve little or no use of complex techniques for production and distribution and the scale of production is small. This element in the economy may be termed *the subsistence or home-consumption economy*.

The outstanding unit of subsistence production is the household rather than the individual or the local territorial group as a whole. At the same time there may be significant exchange relations between members of a single household while, on the other hand, there are important forms of co-operative subsistence production by larger units such as kin groups and village communities. There are many areas in Nigeria in which almost all the basic physiological needs of food and shelter are met by a system of household production, while the greater part of the other goods and services consumed are also produced within the circle of a small village or hamlet. These conditions hold for the people of most areas remote from means of cheap transport. But, even where more efficient means of communication and transport have promoted wider organisation, whether native or western, and have created a wider exchange of goods, a very large proportion of the total economic effort is still directed to production for direct consumption within the household, hamlet or village.

At the same time there has long existed a native system of exchange, which has included not merely small-scale transactions within the local community but also a considerable commerce transcending indigenous ethnic and political boundaries. This has been increasing in scope, range and importance with the pacification of the country and development of internal communications under British administration, and may be termed *the internal exchange economy*.

Finally, there is a third element, which is concerned with the exchange of goods and services between Nigeria and other territories, particularly markets overseas and this, which may be termed *the external exchange economy*, is distinct because it is at some stage subject to regulations, whether instituted by law or established in the practice of import and export firms, and others concerned, which do not normally apply to the native subsistence and internal exchange economies.

These classifications are significant because they correspond roughly to differences in the scale and complexity of the economic organisation involved, and are useful as long as they are recognised as referring to elements which exist in varying degrees of combination, according to the level of economic development in different parts of the country. The very few communities which have remained in almost complete isolation, such as an Alantika hamlet in the Cameroons, will exhibit the dominance of subsistence to the point of virtual exclusion of all others. A remote Ibo, Yoruba or Hausa village while clearly exhibiting the predominance of the subsistence element will also include in its economic system internal and external exchange elements to a substantial degree. On the other hand, a large market centre or port will show the subsistence, internal exchange and external exchange elements operating in an inverse order of importance to that in a remote village community.

3. IMPORTANCE OF SUBSISTENCE PRODUCTION

Although, as just mentioned, communities with virtually closed economies are now very rare, the subsistence element still dominates the economic activity of the great majority of the population throughout most of the territory. Such subsistence production occupies the main part of the working time and energy of the people outside a few main marketing and administrative centres. Furthermore, the local communities are not usually divided to any great extent into producers of different types.

The conditions and techniques of subsistence production, therefore, profoundly affect the character of the native economy as a whole and often set rather close limits to the opportunities for participation in a wider system of exchange. They also constitute the basis from which any planning of future economic development must start. It is, therefore, desirable, when attempting to survey and analyse the native economies, to determine in the first place the character and distribution of the basic types of subsistence production. The extent to which these are combined with exchange production under various physical and cultural conditions can then be more clearly portrayed and the relations of the total economy in various areas to physical conditions, cultural pattern and economic opportunities made clear. Finally, an attempt has also to be made to assess the total productivity, standards of living and levels of consumption achieved in native communities which combine in various ways particular forms of these elements of production.

There has, unfortunately, been little systematic enquiry into the detailed character and relative importance of the subsistence element in the native economies of Nigeria. The administrative and technical services of government and the commercial interests have in the past for obvious reasons tended to focus attention on the development of production for

external and especially overseas markets. Money income, levels of government revenue, and the volume of the export and import trade of the country have all been closely bound up with production of marketable surpluses of goods. The existence of the underlying foundation of subsistence and local exchange production in the hundreds of thousands of Nigerian communities large and small has often been taken for granted, and the opportunities for their development have in the past been little considered. Preoccupation with improvements in the competitive position of the export crops in the world's markets has often diverted attention from the task of securing increased well-being by raising levels of production for local consumption. On the other hand, changes in the character of subsistence production are often slow, localised and unobtrusive. It is only after some years that modifications, such as the growing dominance of cassava production in parts of southern Nigeria with its important consequences both for the nutrition of the people and the fertility of the soil, are recognised.

Nevertheless, the consideration of native welfare, of the maintenance or revival of soil fertility and, during the second world war, of the need for greater dependence on internal food production has led to an increasing concern for the native economies as a whole and for the character and relative importance of the subsistence element within them. A considerable and growing, if somewhat miscellaneous and uneven, body of data can be derived from the various taxation assessment reports, agricultural and other technical memoranda, medical reports and anthropological monographs available for various parts of the country. From these it is possible to discern, at least in outline, both the variations in the importance of subsistence production in the total economy from area to area as well as regional differences in its character and potential development.

Several basic types of subsistence production may be usefully distinguished in Nigeria. These, as will readily be seen, are derived not only from broad physical differences between the regions but also from differences in the cultural conditions of the peoples. Although other needs such as housing and social organisation play their part, the direct provision of regular food supplies is usually the dominant objective in subsistence production so that the form and method of food production are commonly its most distinctive aspects and a convenient basis for classification.

There are important relations between the character of subsistence production and the form and scale of the exchange production with which it may be combined. The calendar of activities and the forms of land use associated with subsistence crops may militate against the growing of a particular cash crop, the raising of marketable livestock or the undertaking of wage labour at particular seasons of the year. But subsistence production nowhere determines the character as distinct from the intensity of pro-

duction for exchange. Despite their very different demands on labour and land both the exploitation of wild oil-palms and the maintenance of a cocoa grove can be combined with subsistence farming of root crops in southern Nigeria, while a considerable range of cash crops and of forms of petty trading and wage labour are combined with subsistence cultivation of grain in the north. Thus the total productivity depends not only on the type of subsistence production and its efficiency, but also on the types and extents of exchange production that are combined with it, whether for local, distant Nigerian, or overseas markets. There are, of course, innumerable variations of any given basic form of production and of the other economic activities with which it is combined; nevertheless, a classification according to the main food crops is both economically and geographically convenient.

Bearing these considerations in mind four main types of native economy in Nigeria may be usefully distinguished, according, in the main, to the character of subsistence production to provide a framework within which the many variations and combinations of economic activity may be conveniently surveyed. These basic types, the conditions and characteristics of which must be assessed in turn, are:

I. The southern farming economy characterised by subsistence production of root crops, and the production of tree crops for exchange.

II. The northern grain farming economy dominated by subsistence production of guinea corn and millets in combination with field crops for export markets.

III. The plateau economy characterised by the cultivation of inferior grains with distinctive techniques and organisation and a low development of exchange production.

IV. The northern pastoral economy dominated by the rearing of cattle for subsistence production of milk and the marketing of stock and their products.

APPENDIX

NOTE ON THE ASSESSMENT OF PRODUCTIVITY AND CONSUMPTION

In considering the actual and potential productivity and the levels of consumption of the peoples of Nigeria some means of measurement are required both to determine the comparative importance of outputs for different purposes and to make comparisons between the wealth of different communities. Considerable practical difficulties beset attempts to assess the wealth of persons and groups in rural communities operating with a primitive technology and a loose productive organisation of overlapping groups. The absence of precise estimation of the physical volume and ultimate destinations of the actual outputs often renders precise

accounting impossible, quite apart from the fact that a scale of money values which may work fairly satisfactorily for goods and services which enter into commercial exchange may have to be applied quite arbitrarily in the field of subsistence production where there is little or no attempt by the people themselves to estimate the costs of production or the value of the product in market terms. Nevertheless, some common errors in attempts to assess native productivity can be eliminated by a consideration of even the more elementary principles of accounting.¹

In the first place it is necessary to determine as closely as possible the characteristic productive units and their total outputs. Since, as will be seen, most economic activity is organised on a domestic basis and there is often little explicit discrimination between the contributions of individual members, the household rather than the individual or the local group as a whole will provide the most satisfactory basic unit of estimation. The typical composition of the household and its variability requires careful investigation. At the same time the outputs of individuals in specialist activities, on the one hand, and the production of wider groups such as age-sets, village wards or whole communities, for special group or public purposes on the other, must be taken into account in any comprehensive assessment of intensity of labour, total production and levels of consumption. The household, as the dominant unit of both production and consumption, however, will generally provide the most manageable basis for both the estimation of total budgets and for comparing productivity and levels of consumption in different communities.

Secondly, it is very necessary as far as possible to distinguish between the gross and net outputs, i.e., between outputs before and after the value of all depreciations and necessary expenses have been deducted. This, as will be seen, is a more complicated task than might at first appear and it is one which cannot in many cases be achieved with any high degree of accuracy on the basis of the data at present available. It is, however, very important to be clear as to the nature and variety of the items involved, not only in order to indicate the very limited character of existing knowledge and to call attention to the data needed for more adequate analysis of native economies, but also to dispel misconceptions based on incomplete and unanalysed data as to the magnitude of typical outputs. The data at present available, mostly to be found in the reports of assessments, in agricultural surveys and general sociological studies, excellent though they may be for their own purpose, are from the present point of view inadequate in two ways. Firstly, accounts of gross output are usually incomplete, many items particularly of subsistence production being ignored, and secondly, the estimation of depreciations and costs needed in order to arrive at the net output available for consumption is usually neglected.

¹ I am indebted to Mr. J. Mars for assistance in relating these principles to the conditions of rural household economy.

The basis on which values of the gross and net output of the rural household economy may be estimated can best be indicated in terms of the main categories of production. The gross output of the household will usually include production in most of the following categories:

Field Crops and their by-products consumed, usefully converted or sold, valued at 'on farm' prices. These will include not only the harvest proper but also such items as guinea-corn stalks used or sold for fencing, building or fuel and the tops of ground-nuts and beans, and husks used or sold for fodder or composting, etc.

Livestock, including all products and services and increases in total market value of stock in the course of the year whether or not any are disposed of by sales. Thus, the value of milk, dung, etc., the value of farm work and transport services (other than marketing, see below) provided by stock and the natural increase in numbers, in weight and breeding capacity should all be taken into account. It is also important to distinguish between cash returns from the sale or services of stock over a given period and the output for that period. The former may have been in part secured by depletion of the number or quality of the stock and therefore of its capital value. Thus, the reduction of stock below the level required to maintain the value and productivity of the herd represents a depletion of capital assets and not an increase in gross output.

Sylvan Produce, including all timber felled and collected, whether for firewood or fabrication, all collected fruits, honey, wax, etc., both for household use and for sale. In the case of trees owned personally or by households an estimate of any net increase or depletion of the amount of timber or productive trees by natural growth and new planting less losses by felling, death and destruction should if possible be taken into account. In so far as sylvan resources are collected from 'wild' sources not in personal or household ownership, the net increase or depletion will accrue to the wider village or district community, but it could be attributed *pro rata* to the component households.

Crafts, including all equipment and implements produced for household consumption or as a means of further production, whether for use by the household or for sale, such as pottery, calabashes, baskets, beehives, rope, cloth, etc. As will be seen below, if the output of, for example, farm crops or domestic supplies is to be separately accounted for, the costs of replacement or repair of the necessary equipment must be deducted from the gross outputs and part of the craft output will correspond to these deductions. Where there is combined accounting for the several categories of household output, these home-consumed craft products will appear not as output but as replacement of depreciated equipment.

Transport and Marketing of surplus produce that is disposed of by sale or barter, including all value added to crops and produce through transport and marketing by members of the household. The increment in price

of, e.g., firewood, foodstuffs or cash crops carried by headload, canoe or household donkey and sold in a local or in a distant urban market will be accounted for here. The difference between the farm price and the price received in the urban market may be very considerable.

Domestic Supplies and Services, including:

- (1) building and repair of dwellings and store houses, wells or other domestic water supply, furnishings and domestic utensils,
- (2) the services received from previously produced or purchased durable household goods including the house,
- (3) clothing made and repaired for household use,
- (4) the preparation of food and other personal supplies.

To determine net household outputs from the gross outputs indicated above, deduction must be made of the value of all outlays necessary to maintain the continued productivity of the household at the existing level. Thus, for example, the value of seed necessary to replace the crop secured must be deducted from the value of the total harvest. Furthermore, the cost, whether actually met by the household or not, of all extraneous supplies and services must be deducted from the value of the gross output when attempting to determine the net output, which should include only the wealth produced by the household unit with its own labour and capital equipment.

The character of these deductions will vary for the different categories and according to special circumstances but the more important can be briefly indicated:

From the Gross Crop Output there should be deducted the value of:

- (1) seed replacement,
- (2) net depletion of soil fertility,
- (3) fodder supplied to working animals in respect of their work on the farm,
- (4) depreciation and/or repairs of equipment including implements, granaries, etc.,
- (5) any extraneous materials supplied, e.g., manures,
- (6) any extra-household labour contributing to crop production,
- (7) any technical services received from officials, advisers, mission teachers, etc.

From the Gross Livestock Output similar deductions should be made although the nature of some items will differ, e.g., (1) and (2) will represent net depreciation in, and replacement costs of, breeding animals; (3) fodder purchased or supplied from other production (e.g., crops). Where the output of farm crops and stock is being jointly calculated, crop products supplied to stock and manure supplied by stock can be eliminated as self-cancelling.

From Gross Sylvan Produce Output, few if any deductions may have to be

made apart from costs of replacement and repairs of necessary equipment such as tree-climbing apparatus, axes, knives, beehives, etc.

From Gross Craft Output the important deductions will be the cost of raw materials produced outside and secured by purchase or barter, e.g., raw cotton for spinning, cotton thread for weaving.

From the Gross Value of Returns on Marketing Activities deductions may be necessary for depreciation and repairs to equipment, e.g., baskets, etc., and for depreciation on beasts of burden employed or for costs of living transport services, e.g., porters or donkeys.

From the Gross Value of the Output of Domestic Goods and Services deductions may be necessary for contributions to output by extra-household labour, for the cost of purchased supplies and for the net depreciation of the total equipment.

While direct information or even material for close estimation may be lacking for many of the items referred to and, in particular, for the value of deductions from gross output, it is necessary that their character, variety and cumulative importance should be emphasised. Through failure to include all the multifarious elements of output, the wealth and well-being of the household may be seriously underestimated, while failure to determine net outputs may lead to considerable over-assessment of particular items.

It has by no means always been possible to secure data on all these various items of production and costs for this survey, but an attempt has been made to impute values where possible.

Chapter II

THE SOUTH

1. INTRODUCTION

The rural economy of the south is still dominated by the cultivation of root crops for food under a system of bush fallowing. The natural forest belt, grading from mangrove in the coastal swamps through high rain forest to deciduous woodlands, extends inland for distances ranging from 80 miles in the west to over 100 miles in the east. The southern root crop system extends through this belt and beyond it into the open forest and tree savana zones round the east-west sections of the converging Niger and Benue rivers, while as a subordinate item in mixed economies, roots are found as far north as 12°. Less than forty years ago the proportion of land actually under cultivation in most districts over this vast area was very low; in most parts farms were temporary clearings in the forest and a short spell of one or two years of cultivation on any plot was followed by a long period of rest in which secondary forest grew up on the land again. There are still substantial areas, as for example on the western borders in Yoruba country, in part of Benin and Warri provinces, and in the eastern part of Calabar and Ogoja provinces, where these conditions persist, but as, under the *pax Britannica*, population has increased and land has been taken up on an increasing scale for other uses including the production of cash crops, many parts of the country have been more closely farmed and the period of rest has been cut down. As a result, in some parts of the country once densely forested, only low bush or even tall grass follows the period of cultivation, and the land is comparatively open over many square miles.

The native system in areas of moderate population density is based on a fairly strict rotation of one or two years' cultivation followed by five to ten or more years of rest. The effects on soil fertility, crop yields, nutritional standards and many other features of native economy which follow from the cutting down of the bush fallow period, with more intensive use of available land, will be considered later. A second recent and widespread modification which is not unrelated to effects of the first has been the tendency in many areas for yams (*Dioscorea* spp.), the premier root crop of southern Nigeria, to be displaced to a secondary position as a staple crop by other root crops such as cassava (*Manihot utilissima*) or coco-yams (*Colocasia antiquorum*) which demand less of the soil and which yield more abundantly or continuously.

Although the production of yams or other root staples is dominant,

southern farming includes a very wide variety of secondary cultivated food crops including legumes, cereals, bush and tree fruits, which are planted on farms, in compound plots and in separate groves. Varieties of beans, gourds and maize are frequently interplanted on the yam plots, while ground-nuts, bananas, coconuts, kola, 'native pears' (*Pachylobis edulis*), raffia palms, peppers, etc., are often grown in separate plots or groves. A striking feature, however, is the general absence in the humid southern zone of the secondary cultivation of any of the staple crops characteristic of the northern grain economy.

In addition to the cultivated plant production a considerable and, from the nutritional point of view, a crucial part of the food supply is obtained by the collection of wild vegetable products of the forest and bush. This significant feature is one which is greatly affected by increasingly close settlement and the degradation of vegetation which often ensues. Outstanding among the collected products are palm-oil, palm-wine and a wide variety of edible leaves and shoots, all of which contribute essential protective mineral or vitamin elements to the diet.¹

Over considerable areas, though less now than formerly, hunting, and the collection of snails and rodents, has contributed a substantial amount to the food supply wherever there are considerable and accessible tracts of forest or bush. The imported flint-lock gun, which is permitted in the southern provinces, has provided a very effective weapon by native standards, and native methods of trapping are both ingenious and effective. In some areas, however, the depletion of game with closer settlement has gone so far that hunting and trapping have been almost eliminated from the economy. Unfortunately, it is generally in those same congested areas that there is a very low *per caput* return from another characteristic if subordinate subsistence element, the small-scale rearing of chickens, ducks, goats, sheep, pigs and dwarf cattle. Fishing varies very greatly in importance but it appears that apart from coastal areas and some tracts along the larger rivers, local fish contribute little to the food supply. Surplus dried fish from the main producing areas are, however, traded over great distances.

¹ Palm-oil, used regularly in cooking stews, is rich in Vitamin A; the Vitamin B complex is available in palm-wine (the fermented sap of the oil-palm or more rarely of the raffia palm), while chili peppers and the leaves of many wild plants, regularly used as ingredients in stews, are important sources of Vitamin C. No analysis of the supply of important mineral elements in typical southern diets appears to be available. The oil-palm (*Eleis Guineensis*), which under natural conditions is excluded by the thick canopy from the high forest and is confined to the more open areas especially on the northern margin of the forest belt, has been able through long ages of clearing to colonise the forest belt and is now almost ubiquitous, outside the few tracts of high forest, both in farmlands and bush as far north as a line through Obubra, Onitsha, Akure and Oyo. It is found further north in riverine areas and among tracts of woodland as far as the Niger-Benue confluence.

There are very wide variations in density of settlement, intensity of land use, skill in cultivation, and *per caput* yields among the communities practising this type of subsistence production. Population densities fall far below 50 to the square mile in some remote areas. Here the land which is periodically used for cultivation over a complete cycle forms but a small proportion of the territory claimed and exploited in various ways by the community. Under such conditions a stable level of soil fertility can be maintained without difficulty by generous fallowing, and secondary food resources, obtained by hunting and collecting, are relatively abundant. Since neither crop failures nor pests are a serious menace to subsistence cultivation in southern Nigeria, an adequate level of production can be maintained and, where the pressure on land is not severe, there is no serious 'hungry period', far less famine, from year to year. Under favourable soil conditions, there is probably an assured food supply with population densities up to 250 or even 300 per square mile.

Where cultivable land is abundant, a considerable surplus of the subsistence crops can be produced without great effort by the ordinary household with customary native methods of cultivation. Whether such a surplus can be exchanged in the market appears to depend, at present, mainly on transport facilities. But although there are communities, such as the Ikwe, Ezza, and Izi Ibo of Abakaliki division, whose production for exchange takes very largely the same form as their subsistence production, namely yam farming, in most areas surplus labour is generally devoted to other forms of production. Outstanding among these are, first the collection of oil-palm fruits far beyond subsistence needs, for the production of palm-oil and kernels—a form of exchange production that is almost universal in the palm belt—and, secondly, the planting of cocoa groves which is largely confined to a comparatively small area of suitable soils in the western provinces.

Population densities exceeding 1,000 persons per square mile have been claimed for some rural areas in the densely settled country east of the lower Niger including the southern part of Onitsha province and the north of Owerri province.¹ Conditions in these areas are discussed below (see pp. 71f) but it should be noted here that such high densities cannot be substantially supported by the local subsistence production of the areas over which they extend. In such areas a considerable proportion of the adult population, and especially of the younger men, obtain income in money or in kind for services periodically provided in other areas as labourers, petty traders and craftsmen. Moreover, in some cases a proportion of the population in these densely populated areas grows food, sometimes on rented land in neighbouring, less closely farmed country.

Considerable variations of skill in cultivation and in technical methods are apparent both from accounts of particular communities and from

¹ Especially in the Awka, Awgu, Okigwi and Owerri divisions.

estimates of *per caput* acreage and yields for different areas in which there is no severe pressure on land. Thus, data independently secured on two occasions separated by a considerable interval of time revealed that many communities of Yoruba and others in northern and eastern Ondo province cultivated only very small farm areas. The household farms were on an average little more than half an acre in area.¹ At the other extreme the northern Ibo peoples of Abakaliki division referred to earlier are renowned in the south-eastern provinces for the large size of their farms and the high yield and quality of the yams they secure from them. Indeed, among the Ezza who have apparently insufficient land to provide adequate farms for all their able-bodied men, young men, in addition to assisting on the farms of their seniors, go out in large numbers in the hoeing season to prepare the farms of surrounding peoples as much as twenty miles away.

Detailed consideration of the interrelations between subsistence and exchange production will be taken up later, but it is in the meantime important to emphasise that many communities dispose of a surplus of food-stuffs and other goods in daily use, such as pottery, matting and wooden utensils, which find their way through the multitude of local market places to purchasers in other communities as far distant as 20 or 30 miles from the point of production. Thus, the Agoi forest villages on the slopes of the Oban hills, near the Calabar-Ogoja boundary, trade smoked bush meat to the markets of the villages close to the Cross river in which they purchase yams, some of which may have been grown not by the people of these villages but by the Ibo living several miles on the far side of the river. Similarly, pot-making villages, which are relatively few and far between, are nearly all surplus producers, their wares being distributed over areas of a hundred square miles or more. Thus, though in general, the household, and still more the village community as a whole, is largely self sufficient in food supplies and most other household needs, few, if any, are completely so.

The tendency for local specialisation and exchange of native products is very deep seated over most of southern Nigeria. It is reflected in the large number of village markets, in the satisfaction secured by visits to them and in the development of tastes and fashions whereby local substitutes are rated inferior to the specialities of some neighbouring people. There appears accordingly to be a foundation for a very considerable advance in economic specialisation in the production of native-made supplies and for the enlargement of the unit of dominantly subsistence production from the

¹ Thus, the low levels of production of subsistence crops by the villagers of Irun near Ikare who were regarded as poor and lazy farmers by other people of the region, were not due to marked concentration on production for exchange. Indeed, the greater part of the cocoa farming which has been rapidly extended in their territory in recent years has been carried out by strangers. Mackenzie, J. A., *Reassessment report for Owo Division, Ondo Province*, 1928 (unpublished), and Allison, P. A., 'Land Use Survey of Irun, Ondo Province,' *Nigerian Forester*, v. I, No. 2: 43-47, 1940 and pp. 81-87 below.

household or village to the district or region. There are many latent opportunities for greater division of labour, more efficient production, further exploitation of local advantages in resources and skills and hence for increases in the volume of goods and services available. Advantage could be taken of these if communications were improved and if advice and instruction were more fully available.

Unfortunately no adequate series of comprehensive studies of southern rural economies is so far available to show the diversity underlying the general uniformity of economic and property systems in the southern rural economy. The field investigations necessary to determine the various structural types and their regional interrelations have yet to be made and in their absence it is possible only to piece together scattered data making the fullest use of such studies of particular communities as happen to be available. It is, however, possible to show that where there is no serious pressure on land and there is access to export markets, the combination of a high degree of self-sufficiency in food and other household supplies with the production of a surplus of palm-oil and kernels from wild trees is characteristic over very wide areas especially in the provinces east of the lower Niger. The Yakur living east of the Cross river in the Obubra division of Ogoja province, investigated by the writer in 1935 and 1939, appear to be representative of this condition and an analysis of one of the Yakur communities will serve to demonstrate the salient features of the technological and economic systems. This will afford a standard from which to assess the effects of differences in culture, in density of population and varying degrees of integration in the exchange economy. The conditions and effects of over-population can be made plain by a comparison of the data available for two Ibo communities, very similar in cultural values and social structure but differing greatly in density of population. The first in Bende division has a density of population comparable with that of the Yakur, while the other in the southern part of Okigwi division lies in one of the areas of congested settlement. Finally, special consideration of the economy of the western provinces is necessary to assess the effects of differences in social organisation and technology as well as the consequences in the cocoa belt of concentration on an export product involving special economic factors. We shall now proceed to study in greater detail these four samples.

2. A VILLAGE ECONOMY IN THE EASTERN PALM BELT

(a) SYSTEM OF PRODUCTION

The Yakur village of Umor¹ in the south of Obubra division, although unusually large for an essentially rural community, appears to be repre-

¹ See Forde, C. D., 'Land and Labour in a Cross River Village,' *Geographical Journal*, v. 90: 24-51, 1937. The tribal name is more correctly represented by the spelling: Yakö.

sentative of the economy of the palm belt in areas of moderate population density where conditions are not complicated by the proximity of large urban markets. Situated seven miles east of the Cross river and about 80 miles in a direct line from the coast it lies in the more remote but nevertheless still accessible part of the hinterland of the long established coastal trading port of Calabar. With over ten thousand inhabitants almost entirely concentrated in a single compact settlement and a territory of 47 square miles, the density of population is approximately 230 per square mile. The land which is periodically farmed amounts only to some 18 square miles, of which only 3 or 4 square miles are actually under cultivation in any one year. The remaining forest is sporadically and lightly exploited for game and wild forest products. There is not at present any severe competition for land or forest products, for the village has adequate territory. The continuance of the great increase in population which can be inferred from village expansion in the last two generations may eventually result in a land shortage if other sources of wealth are not developed; but assuming no basic change in the present economy, the population could probably increase by another 50 per cent before severe strains would show.

The Cycle of Cultivation

Early in January each year during the short dry season the new farmlands are cleared for planting. As these tracts have not been cultivated for several years they have grown up into a dense bush of saplings and undergrowth about 20 feet high. Yam hills are made by women and 'foreign' workers as the clearing progresses. A number of subsidiary crops such as coco-yams, maize, okra, pumpkins, beans and less commonly cassava, are planted after yams on the slopes of the yam hills. Round the margins of the farm pepper-bushes are transplanted from the previous farming site. The clearing of the land and the preparation and erection of the stick and string supports for the yam vines rest with the men, but all the subsequent tending of the farm, including the heavy task of double or triple weeding, is done by the women.

In July an early variety of yams is available and from this time onwards the women in their daily visits to the farms dig these as they are needed to feed the household until the main harvest begins in the last weeks of October. This harvest is stored in great open yam stacks built on all the farm paths two or three miles out from the village. These are made ready for the harvest by the men in October, when the yams which the men and women have dug together are washed, dried and carried by the women, while the men tie them in the stack to long upright raffia poles secured to the solid timber frame. When the yam stacks have been filled in early December the cycle is complete and there is a short lull in farm work until the clearing for the next year begins.

In addition to farm crops, bananas, plantains, kola nuts, native 'pears',

pawpaws, and coconuts are obtained from personally owned groves of planted trees laid out along the farming paths, round the yam stacks, and in the village. The tending of these trees is entirely in the hands of the men, about half of whom are almost daily engaged in collecting oil-palm fruits and wine in the surrounding bush.

Farm Areas

Rights to the use of farmlands in Umor are held by adult men individually and a man of middle age will have established and recognised rights to about half a dozen sets of plots. Only one set of these is, however, cultivated in any one year while the rest remains in bush. The mean area of the farm units in cultivation was approximately one and a half acres (1.40) containing approximately 2,500 yam hills. Thus, a representative household of a man, two wives, and three or four children is likely to have about 7 or 8 acres of farming land at its disposal, of which one and a half acres are cultivated each year. But the areas of the household plots in actual cultivation ranged widely from 0.25 acres to 8 acres.¹ The adult strength of a household farming unit will obviously set limits to the area which can be cultivated but the area farmed was found to bear no simple relation to the size of the household whether considered as a farming unit of adults or a food-consuming unit including minors. Many other factors such as interest in trading and hunting, yams available for planting, the capacity of the man and women, and the services of kinsmen, all affected the farm area of individual households.

Land Rights

The village community is composed of some thirty major land-holding groups of patrilineal kinsmen ranging in size from 30 to nearly 200 adult men. Each group has collective rights to a delimited dwelling area and to a number of tracts of farming land which have been opened up and cleared at one time or another by earlier generations. Individuals acquire permanent usufruct in particular plots by inheritance and by taking over unclaimed areas subject to the approval of the elders of the group. Kin groups also claim for their members prior but latent rights to establish farms in the tracts of bush adjacent to their farmlands. On the other hand, in more remote unfarmed areas virtual cessions of farming rights are allowed to members of other kin groups and of other Yakur villages in return for token gifts when land shortage is not feared.

The kinship basis of a land right does not, however, completely circumscribe the opportunities of the individual. In the first place, individual men or small groups of relatives are able, if welcomed, to migrate from their own kin area in the village and go to live and farm in the area of another kin. A man may also obtain temporary rights to make a farm in

¹ Based on a sample of 97 farms, see Forde, *op. cit.*

the land of another kin group. Economic opportunities connected with land are not bought and sold, but there is great emphasis on correct form of procedure, and an open recognition of favour. If serious pressure develops on the farming land, new farming paths are opened in the bush. Thus the control of land within the framework of kinship rights is subject to slow but continuous change by a process of piecemeal accumulation or abandonment according to need.

Farm Labour

At the opening of the farming year the bush paths leading to the lands to be planted have to be cleared. This is effected by compulsory joint labour in each ward, and fines may be imposed on able-bodied men who refuse to co-operate. One or two days is generally enough to complete the work. Then smaller groups of men who propose to farm adjacent plots in different areas clear branch paths giving access to their lands.

The number of men taking part in farm-clearing groups usually ranges from 12 to 30; a man who intends to make a large farm of some 3 acres or more will need the service of four or more of these parties. Clearing parties are usually enjoyed for their own sake, and, since a minority of farms greatly exceed the average, there are always a few men who will need more help than can be required of them in turn. But if they offer a meal and a generous supply of palm-wine, they will not as a rule lack helpers from among their kinsmen and age-mates who have fewer yams.

The hoeing up of mounds in which the yams are planted is traditionally women's work, but for nearly a generation now parties of young men from the more densely peopled Ezza Ibo area have visited the Yakur villages at this season to take part in this work as paid labourers. They receive their food and 2d. per day and may stay for two months or more being hired by individuals, usually in parties of from two to as many as twenty, and may work on one farm for from two to ten days.

After the yam planting—carried out jointly by the man and his wives in the intervals of clearing and hilling and usually without help from outside the household—the farm work, which includes two or three weedings between May and September, devolves almost entirely on the women until the main harvest. The heavy labour involved at the harvest in digging, carrying, washing and stacking the yams may be indicated by the actual numbers of yams tied in the stacks. In a sample count made in 1935 the main harvest totals [for yams of all sizes] ranged from 350 in the case of a young man farming for the first time to nearly 20,000, the harvest of an exceptionally large farm of 8 acres. The mean was nearly 4,000 yams of all sizes per household.

Hunting and Livestock

Barely a quarter of the men hunt regularly with flint-lock guns in the

forest tracts and farm bush in the village territory, and known hunters are free to roam widely over the village lands. Game is also taken in a variety of spring traps set along the paths and round the farms. While a number of duiker and other forest buck and small game are obtained, this source of meat is very small in relation to the total population.

Nor do livestock contribute a substantial meat supply. A sample enquiry suggested that the entire village stock of the southern Nigerian breed of dwarf cattle was little more than 500 among a population of about 10,000. Moreover, the greater part are disposed of by sale to Ibo visitors who come to buy cattle for their club feasts. Goats are only twice as numerous as cattle and are quite insufficient to provide a regular meat supply. They are killed and eaten at feasts of kinship and clubs but are rarely used for ordinary household food. There are very few sheep or pigs, while chickens, the only animals at all common, amount on the average to only two per household. There is little doubt, therefore, that the Yakur diet, which appears to be typical of the easier areas of the south-eastern provinces, is deficient in animal protein. Meat is normally available only in minute quantities as a relish, the local fish supply is negligible and the consumption of imported stockfish is small.

Oil-Palms

In addition to a wide variety of materials for food and crafts collected on a small scale from the bush, the products of the wild oil-palm are obtained regularly in large quantities throughout the year. About half the able-bodied men are daily engaged in obtaining palm-wine and palm-fruits, while the fronds are also collected in large quantities for house-roofing.¹ The oil-palm grows abundantly throughout the territory and is left standing when land is cleared for farming. Each of the patrilineal kin groups collectively claims rights to the oil-palms in tracts of territory reached from its farming paths. These tracts are not limited to the lands which are periodically farmed by the group but may extend into uncultivated areas, and there are some discrepancies between farming and oil-palm rights. The groups of palms actually exploited are constantly changing according to the yield and the convenience of their situation.

An individual can cut palm-fruits anywhere in his kin group's palm land so long as he does not interfere with palms which are being tapped for wine by others.² In practice most people collect fruits in a tract round their

¹ Among 103 men of one kin group, 50 were tapping palms for wine and 48 were collecting fruit. In nearly all of the former cases part of the product was sold in the village.

² Palm-wine—the fermented sap obtained by piercing the flower stalk and attaching a collecting calabash—is collected twice daily and considerable labour is involved in each tapping of an inflorescence which yields for only a month or so. To obtain about a gallon of palm-wine, six to ten trees have to be climbed twice a day.

current wine-tapping or farming areas and, since there is usually a surplus of fruits, there are few disputes within the group. Theft of accessible palm-fruits by men of other kin groups is, however, more frequent.

The preparation of palm-oil is a household matter shared between men and wives. It is done at convenient intervals when a sufficient supply of fruits has been collected. Although the extraction of oil, apart from the pulping of the fruits, is carried out by the wives, the oil, save for household requirements, belongs to the man alone. The wives, as almost everywhere in the palm belt, receive as their share the nuts which they and the children crack to extract the kernels for sale. Apart from small quantities of oil prepared for domestic use the palm-oil made in Umor is derived largely from fermented fruits and is of the non-edible semi-hard type.¹

The production of palm-oil and kernels has increased enormously during the last generation and is by far the most important source of money income. The fluctuations in the wholesale prices of oil and kernels, which have been very great in recent years, have, therefore, had a considerable effect on the purchasing power of trade goods and on the tax-paying ability of the people.

(b) PRODUCTION FOR EXCHANGE²

Probably every household in Umor produces some surplus which is disposed of by sale. But the variations in the amounts are as great as the means of disposing of them are various and some analysis is necessary before an attempt can be made to assess the importance of exchange production within the households or to estimate the amounts of cash income that are secured.

Foodstuffs

In the village market women engage in a petty trade in foodstuffs, but it is very difficult to estimate the amounts of produce involved, nor is there any hard and fast line between cash sales and barter.³ About half the women of the village dispose of small surpluses in this way as they become available.

The traffic in yams, the staple food, appears to be small in relation to the total harvest. Investigation of a sample group of households in 1935 revealed not merely a high degree of self-subsistence in yams, but also that surpluses are normally small and largely disposed of by gifts and sales

¹ This section, based on unpublished field investigations by the writer, relates to the period 1935-1940.

² See Chapter VI for discussion of methods of oil preparation and the various grades of oil.

³ At any given period recognised exchange values exist between several of the main items of farm and bush produce. Yams, either singly or five at a time, and bowls of oil-palm kernels function as a local currency for the purchase of other goods in small quantities.

among kinsfolk. Only 15 per cent of men produced a surplus sufficiently large to be offered for sale to an outside trader for export from the village, while less than half the men and a quarter of the women sold any yams in quantity. Excluding yams disposed of in petty barter, the aggregate surplus probably amounted to less than 3 per cent of the main harvest and of this less than half left the village. On the other hand, on account of their value, a man with a considerable yam surplus, such as 500, could, at a typical village price of 7s. per hundred, derive therefrom a comparatively large item of cash income.

The numbers of livestock kept are in general so small that no substantial addition to income either by direct consumption or through sales is derived from this source. A small number of more prosperous men secure considerable, if sporadic, returns from the sale of dwarf cattle most of which are not butchered in the village but bought and taken away by Ibo traders. With good fortune a man who owns a cow may hope to sell a calf every year or two for a pound and obtain from £3 to £6 for the cow when he comes to sell it. Livestock is quite markedly concentrated in a minority of more prosperous households. In fact the keeping of livestock is in general an indication of means secured from some other source rather than an important source of income itself.

Forest Produce

Most constructional materials such as raffia poles and thatching leaves are produced by the men of each household as needed, but there is a considerable demand for dried lianes and other fibres for use as roping in house-building and yam-tying. This is in part met by supplies provided by the younger men who will collect for sale up to a dozen or so bundles at about 6d. each in the course of the year.

But by far the most important, and as has already been indicated, the most remunerative element of surplus production is that based on the exploitation of the wild oil-palms. Palm-wine is produced for local consumption, edible palm-oil is made from fresh fruit for local use and, most important of all, palm-oil and palm-kernels are produced for export. Nearly all the more active men tap palm-trees for wine and a very large proportion of them sell part of their supplies to others in the village. A fairly active palm-wine producer can probably make 10s. or so in the course of the year by sales of his surplus wine at the local price which varies from $\frac{1}{2}$ d. to $1\frac{1}{2}$ d. a calabash of about half a gallon; while those concentrating on palm-wine collection, who are, however, few, can earn more than £1 in this way.

The returns from palm-oil and kernel production are, however, more considerable and are by far the largest single source of cash income. These involve, as has been indicated, the joint activity of both man and wife among whom the produce is shared. Without exceptional concentration on this production, the household of a man with one wife will produce

from 10 to 20 tins, of approximately 4 gallons or 36 lb. each, of semi-hard oil in a year, while in a few households in which the services of younger men and several women are available for its preparation over 50 tins are produced.

No adequate data on the labour costs of palm-oil production were obtained in Umor, but a number of estimates for the production of semi-hard oil under similar conditions elsewhere in the eastern and western provinces¹ suggest that for one 36 lb. tin of oil about 25–30 bunches or 300 lb. of fruit are required. The cutting and transport of the fruit demand from $\frac{1}{2}$ to $1\frac{1}{2}$ days' labour according to their accessibility, removing fruits from the stems would take a further day, while the process of extraction would require another 1 to 2 days, apart from half a day's labour for securing wood and water needed in the cooking process. Thus, the total labour cost per tin would be from 3 to 5 days, of which, among the Yakur, from 2 to 3 would be contributed by the women. About $\frac{1}{4}$ cwt. of kernels can be secured from the nuts by a further 2 days' labour by the women.

At 1939 village prices of 2s. 6d. approximately per 36 lb. tin of oil and 1s. for $\frac{1}{4}$ cwt. of kernels, the cash return would be from 7d. to 8 $\frac{1}{2}$ d. per labour day. At the depression prices of 1s. or less per tin of oil, the return on a day's labour would have been 3d. or less.²

At the local prices current in recent years, which have ranged from 5s. to less than 1s. per tin, a man's income from the sale of palm-oil may be estimated as ranging from 75s. to 12s., according to the ruling price, in the case of ordinary producing households, while the larger producers have received cash returns of over £13 to only 36s. in similar circumstances. While prices as low as 1s. per tin are locally regarded as very inadequate and probably have the effect of diverting some effort to other more remunerative activity where it can be found, even the highest prices during the period between 1935 and 1939 were compared unfavourably with the 'twenties when 10s. or more was obtained for one 4-gallon tin.

The output of kernels is normally greater than that of oil since almost every woman endeavours to produce kernels for sale whether or not her husband produces oil. If he does not, the wife will demand that he should cut palm-fruit for her for this purpose, for, apart from petty trading in foodstuffs, women have fewer alternative opportunities for securing cash incomes than men. While some were in 1935 producing and selling

¹ Summarised by Mr. A. F. B. Bridges in his unpublished *Report on Oil Palm Survey: Ibo, Ibibio and Cross River Areas*, 1939. It should be noted that the process for making soft and edible oil from fresh fruits involves twice or three times as much labour.

² Casual unskilled wage labour, such as portering or grass cutting for Europeans in this area, was paid 6d. per day. Among themselves the Yakur would pay 3d. to 4d. per day for such labour.

kernels at the rate of £1 or more in a year, very many were not obtaining more than a few shillings.¹

Total Household Sales

An enquiry into returns from production for exchange among the 81 men of one kin group showed that three in four produced and sold a surplus of any of the leading exchange products² but none of them produced surpluses of all.³ The quantities and values for each category of produce are summarised in the accompanying table.⁴

The value of the produce exported from the village was approximately 60 per cent of the total value of sales.⁵ Since the number of men deriving considerable cash income from other activities remunerated outside the village, i.e., a few itinerant traders, road labourers, etc., is very small, the bulk of the cash-payments for locally purchased native produce must be ultimately derived from the sale of produce leaving the village. In other words sales of produce outside the village are the only substantial source of new funds. If the group studied be taken to be a representative sample of the village as a whole, the average cash income per household from sales of men's produce, omitting petty traffic and occasional and exceptional items such as stock, would be approximately 15s., while the sum received from external sales averages only about 9s. per household. These estimates omit one important source of household income from produce, namely, that received by wives from their sales of palm-kernels. If a value be assigned to these on the basis of the independent data referred to earlier

¹ Unfortunately no adequate data could be obtained on the actual outputs of a sufficiently representative group of households to permit a direct estimate of village production. It could, however, be estimated that about 1,500 tons of kernels were sold in the local Cross river markets to the 'factory' of a European firm and to native wholesalers in 1935. If a third of this be attributed to Umor, the value of the village kernel output would, at an average price of £4 10s. per ton for that year, have been £2,250 or an average of £1 10s. per household, or 15s. per adult female. In any case there are great variations from household to household in palm-kernel outputs.

² Data were obtained separately for yams, palm-oil, palm-wine and native rope, which are the only produce regularly sold in any quantity by men.

³ The data do not unfortunately cover a whole year. It is, however, possible on the known seasonality of production to estimate the totals for a full year, while the number of sellers would not show an increase.

⁴ It will be observed that the return from the sale of yams is not much smaller than that of palm-oil but, whereas almost the entire output of marketed palm-oil is exported, a great part of the yams are sold in the village for local use. Yam prices were, moreover, considerably higher and oil prices lower at the time of this census in 1941 than they were in 1935, when data for the estimates of outputs and values referred to earlier were made.

⁵ On the assumption that half the yams marketed and all the palm-wine and native rope are purchased locally, c. £25 worth of the sales, or about 40 per cent out of a total of c. £60 are to local buyers for local use.

TABLE II

SALES OF NATIVE PRODUCE BY THE 81 MEN OF A SAMPLE KIN GROUP, EGBISUM KEPUN,
UMOR, OBUBRA DIVISION, EASTERN PALM BELT, 1941

I. Records for Jan.-Aug. Inclusive	No. of Sellers	Total Sales		Average Sale		Largest		Smallest		Correction for Full Year
		Amount	Value £ s. d.	Amount	Value s. d.	Amount	Value £ s. d.	Amount	Value s. d.	
Yams	25	4940	22 14 0	198	18 2	720	3 0 0	50	5 0	$\times \frac{1}{2}$
Palm-Oil	37	411 tins	20 11 0	11 tins	11 0	50 tins	2 10 0	4 tins	4 0	$\times \frac{1}{2}$
Palm-Wine	31	2297 bottles	9 11 0	74 bottles	6 2	180 bottles	15 0	12 bottles	1 0	$\times \frac{1}{2}$
Native Rope	7	38 bunches	19 0	5½ bunches	2 9	10 bunches	5 0	2 bunches	1 0	$\times \frac{1}{2}$
All Sellers	59		£53 15 0							
II. Estimate for Full Year										
Yams*	25	4940	£ 22 14 0	198	s. 18 2	720	£ 3 0 0	50	s. 5 0	
Palm-Oil†	37	462 tins	23 2 0	12½ tins	12 6	56 tins	2 16 3	5 tins	5 0	
Palm-Wine	31	2871 bottles	11 18 9	93 bottles	7 9	225 bottles	18 9	15 bottles	1 3	
Native Rope	7	57 bunches	1 8 6	8 bunches	4 0	15 bunches	7 6	3 bunches	1 6	
All Sellers	59		£59 3 3							

* No. of men selling both Yams and Palm-Oil: 7

† No. of Men selling both Palm-Wine and Palm-Oil: 21.

I am indebted to Okoi Arikpo, a native of Umor, for the data on which this table is based. They were obtained in 1941 during a period of leave from his duties as an instructor at Yaba Higher College.

concerning typical palm-kernel outputs, a sum of about £62 should be added as the contribution of palm-kernels produced by the 123 wives at an average of 10s. each. This would give an average per household of about 25s. for total sales and of about 19s. for sales of exported produce. Actual household sales would, however, range from a few shillings to over £5.

(c) TRADING

Trading in Umor falls into three fairly distinct categories which are to a large extent in different hands. They are: first, the purchase for resale of palm-oil and kernels with which is often combined trading in exported and imported food supplies; second, the retailing of European goods and third, the local traffic in native food supplies and manufactures which is mostly in the hands of women.

Palm Products

There are no large-scale palm-oil wholesalers in Umor. The bulk handling of oil is concentrated in the Cross river village of Ediba seven miles away, where the 'factory' of a European firm and native wholesalers buy up oil which is brought in from the villages of the surrounding area. The oil traders in Umor confine themselves to buying for resale oil produced from time to time by individual households, offering a cash-payment for each lot according to the price they expect to receive at the riverside.¹

Oil trading is regarded as a specialised and risky business, in which only those who can afford to lose money will engage on any scale. There appeared to be at most a dozen men in the whole village who regularly traded in palm-oil. One man who did devote nearly all his time to it and purchased most of the food for his household, accumulated from 10 to 40 tins of oil every two or three weeks when he was buying. He considered a net profit of 3d. per tin satisfactory and 6d. very good. An annual turnover of 300 tins at a 'satisfactory' profit of 3d. would yield £3 15s.²

Palm-kernels are bought up from the women by petty kernel traders by the bowlful. When one or more hundredweight sacks have been filled, these are carried to the river for sale to the factory or to native wholesalers, or for further transport to Calabar and other down-river markets. A few

¹ If the price actually offered at Ediba either by the 'factory' or by native wholesalers proves unsatisfactory, a trader may hire a space in a canoe to have his oil carried to Calabar, where he can offer it to a number of competing firms, or leave it on deposit at Ediba in the hope of a rise in price. Oil is quite often held up either in the village or at the river for several months before it is sold.

² The local oil traders obviously could not be handling more than a small fraction of the oil produced in the village, and the greater part of the output is carried by the producers themselves to Ediba, when they have accumulated a tin or two for sale.

shillings is all that is needed to set up as a kernel trader, and this venture is popular among the younger men. The trader's gross profit per bag may be quite considerable as compared with that from oil, but the turnover is usually smaller. In 1939 when the kernel prices were low, the trader had a margin of 1s. to 1s. 2d. on a cwt. bag, selling for 4s. at Ediba, although the actual profits were said not to increase greatly with higher prices.

A very active kernel buyer will fill up to 10 bags in three months or about 40 bags in a year, which, at a steady price, would yield a gross profit of about £2. On the other hand, a fall of a shilling or more per sack, which has not been at all unusual in recent years, would wipe out most of the profit. Many kernel buyers claim that they have lost more than they have made in recent years. The majority of the young men engaged in this trade marketed only a few bags in the course of a year and typical individual profits have amounted to less than 10s. The village kernel traders do not confine their activities to their own community. The more enterprising visit the surrounding villages on their market days. On the other hand a number of buyers from the riverside villages are also to be found in the Umor market.

Analysis of data for one year¹ concerning trading journeys with palm and farm produce undertaken by the men of one ward showed that out of the total adult male population of 390 only 31 men were engaged in these forms of external trade. Of these 21 traded mainly in oil, 15 in kernels and 18 in farm produce; while 12 of them purchased supplies for further trading on their return. If this be taken as representative of the village as a whole, it implies that about 8 per cent of the 1,750 men in the village, or about 140 in all, were engaged in one or other of these lines of trade. Moreover a great deal of this trade is on a very small scale and in the hands of youths who have not yet taken up farms of their own. While all the recorded traders were below middle age, fully half of them were under 25 years of age.²

Trade Goods

The trade in European goods varies even more in scale. On the one hand, there are a few well-established specialist traders who do not farm, have several assistants and cover a wide circuit of village markets. At the other extreme are a considerable number of young men who, with a loan of a few shillings, travel to Calabar or Port Harcourt to buy a few lengths of cloth which they attempt to sell at a profit on their return. Most traders have

¹ From October 1938 to September 1939.

² Of the 21 men trading oil, only one was operating on a really considerable scale, marketing 100 tins, and only 4 others marketed twenty tins or more in the year. Only 2 of those trading in kernels were operating on any considerable scale and half were marketing less than ten bags per head in the course of the year. Although it was a common practice on trading journeys with oil-palm products to market farm crops at the same time, this trade too was very petty.

their favourite 'lines', but there is a good deal of overlapping. The majority sell cloth and combine this with other goods as opportunity offers. The outstanding trade goods brought to the village are: cloth and clothing in considerable variety;¹ salt;² stockfish; yellow soap; hardware, especially enamel bowls and matchets; matches; lump sugar, consumed by the women and children as a sweetmeat; gunpowder; patent medicines and miscellaneous personal articles such as beads, combs, mirrors and pomades.

With the development of lorry road-services in the country west of the Cross river, Onitsha and Port Harcourt have largely superseded Calabar as the markets from which cloth traders get their supplies, but kernel and oil traders taking supplies to Calabar frequently buy trade goods there for resale in Umor. In all cases these are mostly bought at their ordinary retail prices in the European or Syrian stores.

The largest trader in Umor in 1939 was visiting one of these centres every three months to purchase cloth and other goods to the value of £15 to £20 on each occasion. He considered a gross profit of 25 per cent to 50 per cent on cloth to be reasonable, since each journey cost 10s. to 15s. and he had to maintain two assistants, who traded some of his goods in outlying markets. His gross annual profits were between £20 and £30, against which expenses from £5 to £10 for journeys and payments in kind to his assistants had to be set.³

There appeared to be only two other traders in cloth and miscellaneous goods in the village who had abandoned farming to operate on this scale and only 8 others who, while maintaining adequate subsistence farms, devoted much of their own time and energy to trading in cloth, visiting a distant factory about every three months to purchase about £10 worth of supplies. On a turnover of £40 of goods in a year, such men might be expected to obtain gross profits of £10 or more, of which £2 to £3 would be expended on travelling and assistance.⁴ Finally, there were about a hundred younger men trading sporadically in cloth and miscellaneous goods, sometimes in combination with kernel buying. They make few journeys to distant markets for supplies, and might buy their goods from as close at hand as Ediba. Their turnover and profits were considerably

¹ This includes 'Manchester' prints and Yoruba (native) dyed cloth, khaki drill (which is made up by native tailors into shirts), cotton and artificial silk vests.

² The imported bagged salt is 'cooked' by the trader into cylinders about 6 inches in diameter, which is then sold in slices of about 1 inch thick.

³ He claimed that his trading capital, which in 1931 had been of the order of £60, had by 1939 been reduced to little more than £20 and attributed this to losses due to the undoubted shrinking of trade during the prolonged period of low palm product prices. But he had in the meantime built a mudblock cement-faced house with an iron roof on which more than £50 was spent.

⁴ Detailed costing of an actual journey for supplies from Onitsha showed an expenditure of 10s. 4d.

smaller and are likely to range from a few shillings to not more than £2 in the course of a year.¹

The total net profits of cloth and miscellaneous trading by villagers in the course of the year could therefore be roughly estimated at £200. While, however, the local traders visit other villages, traders from other districts also visit Umor, so that the activities described above do not directly indicate the level of local consumption of cloth, hardware and miscellaneous goods. There will be over thirty men offering these for sale in the bi-weekly village market, of these two-thirds will be local men and the remainder strangers, mostly Ibo from the far side of the Cross river. If we assume that the local traders dispose of two-thirds of their goods in the village and that they share equally with strangers in the total trade, the annual village purchases of these goods will be about £1,000 to £1,500, or from 14s. to £1 per household.

Imported dried cod, known as stockfish, is a separate trading speciality, although dealing in it is sometimes combined with kernel buying. It is purchased by the bag at Calabar for £2 10s. and sold in small pieces at 1d. to 6d. a time according to size, at a gross profit of 15s. to 16s. on a bag. About a dozen local men regularly sell stockfish in the market, but no detailed information as to their turnover and profits was obtained.

Native Food Supplies and Manufactures

There is practically no large-scale trade in native food supplies. Traffic is mainly confined to the sale of small surpluses from household farms and to petty purchases of imported specialities. Reference has already been made to the occasional petty sales by women of their own farm surpluses, to the small-scale external trading in farm produce by men who are primarily engaged in other trading activities and to the occasional larger-scale sales of yams by surplus producers to local consumers or visiting traders.

Extremely few Umor women engage in trading outside the village, although about 5 per cent make occasional visits to neighbouring villages to obtain supplies, mostly of fish and peppers, for resale in the Umor market. Trading in food supplies imported into the village is largely in the hands of 'foreign' women who come in considerable numbers to this the largest village market for some twenty miles around, bringing dried local fish, coco-yams, cooked food such as bean cakes and miscellaneous vegetable produce. A number of these 'foreign' women reside in the village for several months at a time, making frequent journeys abroad for supplies. The records of household sales and purchases of food supplies strongly sug-

¹ Soap, matches, sugar and other minor household articles are another largely separate trading line which is engaged in by petty traders, nearly all of whom are local men, although a few stranger women also participate. From 10 to 20 stalls of such goods are to be found in the market.

gest that the village as a whole was a net importer of native food supplies other than yams, but that the quantities and values involved were small.

Smoked bush meat prepared by the Agoi peoples, whose small villages are scattered through the high forest to the east of Yakur territory, is marketed both by Umor and a few Agoi men, who engage in a two-way trade taking gunpowder, cloth and other trade goods to these villages in exchange for bush meat, creeper-rope, palm-kernels and cam-wood. There are usually three or four men selling this bush meat at every market, and it is also sold in the compounds by traders who often make journeys to fulfil special orders for a club, kin group, or other feast. Apart from such occasional large purchases, it can be roughly estimated that the equivalent of only some half-dozen duiker carcasses would be sold in a week—a negligible amount in relation to the population of the whole village.

The Yakur rely largely on 'foreign' traders for their supplies of native manufactures. Those purchased in the largest amounts are baskets, pots, hoe blades, tobacco, and prepared chalk used for ceremonial and cosmetic purposes. Although a considerable quantity of these products is purchased by villagers who have gone to outlying markets for other purposes, there are, except in the case of native tobacco, few if any resident traders in native manufactures who keep stocks of these goods.

(d) LEVELS OF CONSUMPTION AND MONEY INCOME

While there is no recollection or tradition of serious famines among the Yakur and the majority of households are able to provide an adequate, if not lavish, supply of yams for food in the period after planting, only a minority regularly have a considerable surplus. Wives are expected to grow adequate household supplies of the secondary crops which they plant between and on the sides of the yam hills. On the other hand, it is well known that hills overloaded with minor plantings are likely to yield poorly in yams, and men set fairly strict limits to this interculture, especially where a wife is securing a surplus for her own trading activities.

In view of the smallness of the trade in yams, the consumption of this staple may be taken as little below the total available output. The average household harvest in the sample discussed earlier was equivalent to approximately 2,500 medium-sized yams of 3 to 4 lb. weight, but the modal value for farm harvests was approximately 1,900.¹ It is reasonable, therefore, to assume that a small household of one man and wife with two or three children will in ordinary circumstances have a harvest equivalent to about 2,000 medium-sized yams. Of this about one-quarter must be deducted for replanting and losses in the stack, while a further hundred will probably be used in barter, minor gifts and hospitality, leaving some 1,400 for household use. This implies a mean daily consumption of about

¹ The total *number* of yams is much higher as it includes a large proportion of small yams only a pound or so in weight.

1.3 medium yams per adult unit, or 4 or 5 lb. weight of unprepared yam.¹ The value of this yam consumption at a middle price of 7s. per hundred yams would be £4 18s. per annum.

Actual household consumption varies considerably, however, through the year. Even well-provided households with large harvests do not reserve sufficient yams to maintain consumption at earlier levels during the period between planting in April and the first digging of early yams in July. Consumption will, according to the resources of the household, fall to a half of what it has been during the rest of the year or even lower. At this period coco-yams are substituted as far as possible, but many households have only one substantial daily meal during these two months. The yam consumption following the harvest and during the digging of new yams is correspondingly higher than is suggested by the average daily estimates given above.

It would, however, be incorrect to assume that there are no substantial variations from household to household in yam consumption. Although there is probably no gross insufficiency of supply of this staple food, there are at opposite ends of the scale households which, through inefficiency, sickness, or other misfortune, secure much less than they need by local standards, and others in which the fufu² bowl is always heaped full.

The supply of coco-yams, which are eaten in quantity only during the growing season for yams, is met by both home production and by import from other villages. A normal consumption for a small household would be from 300 to 400, worth 4 or 5 shillings. The ordinary household is largely self-sufficient in okra, beans which are dried and stored for use through most of the year, as well as in plantains, pawpaws, peppers, maize, ground-nuts, native 'pears', and other vegetable produce including edible palm-oil. The annual consumption of these crops by a small household appears to be worth about £1 at the prices ruling in the local market. A daily calabash of palm-wine would have a further annual value of £1 10s. Thus, the total value of typical vegetable food consumption in a small household would be about £7 12s. per annum.

The most important further item of food supply is animal protein. Most households will consume the equivalent of one or two goats and two or three chickens in a year, though they may actually be provided outside the household diet and be eaten mainly by the men. Small quantities of

¹ Two children have been counted as one adult in this estimate. The consumption indicated accords closely with independent estimates of the amounts consumed by households. Thus, a prosperous trader with a household of this size reported his annual yam consumption as 1000 purchased and about 500 produced by his wife on her brother's farm. His standard of living did not deviate noticeably from general food habits save that his supplementary purchases of coco-yams during the period of yam shortage and his consumption of rarer foods, e.g. meat and stockfish, was probably higher.

² The general southern term for mashed yam which is the main element of the evening meal.

smoked bush meat, stockfish and dried fish are purchased by many of the households at the main market every sixth day. But the quantities are extremely small, amounting in many cases to one or two ounces at a time, to be used in flavouring the stew in which the mashed yam is dipped. Thus, in the ordinary small household meat constitutes a relish and represents an expenditure of at most 10s. or so in a year. The total value of the annual consumption of food at local prices is therefore not likely to exceed £8 2s. per year for a small household, or about £2 5s. per adult unit.

Dietetically, despite its overweighting of carbohydrate and deficiency in animal protein, the food supply has redeeming features. The regular consumption of palm-oil in stews and of the oily native 'pear' (*Pachylobis edulis*), eaten in large quantities when in season, ensures a reasonably high intake of vegetable fats, while palm-oil, palm-wine and the considerable quantities of green stuff eaten both raw and cooked provide, as has been seen, 'protective elements' in sufficient quantities.

The most valuable of the further items of household consumption are clothing and hardware, most of which are imported trade goods. Although the outlay in any one year varies considerably, scrutiny of a number of household budgets indicated that the annual expenditure on clothing of men who are heads of small households varies from 5s. to 10s., representing one or two lengths of cloth. Some of this was for gifts to wives, but the latter also made smaller purchases themselves, and the typical total outlay for a small household would range from 10s. to 15s. There is, however, considerable variation; more especially since there is a tendency when funds are available to buy surplus cloths for putting by. The actual expenditure on clothing over one year by men alone in a sample of 81 households ranged from nothing to £8.

Some additions and replacements to domestic and working equipment are made every year in most households. In the sample referred to above, the norm for a small household appeared to be 3 to 4 shillings on machets or knives, but a shilling or less on pots and enamelware. Here again, however, the variation in outlay was considerable, ranging from 25s. to nothing.

Expenditure on cosmetics and ornaments, both native and imported, may be very considerable in a prosperous household, since purchase of expensive bead necklaces worn by both men and women on ceremonial occasions is a recognized way of displaying wealth. While therefore a typical outlay on soap, perfume, chalk, cam-wood, etc., is only a shilling or so and most households buy few if any personal ornaments, a prosperous household will spend several shillings on cosmetics and from 10s. to £1 on ornaments.¹

Every household is involved in a system of gift exchange of food, clothing and ornaments made on a variety of ceremonial occasions, but it can be

¹ Occasional purchases of the very expensive cornelian necklaces costing £10 or so are not included here as items of current consumption. They are more appropriately regarded as a form of saving.

assumed for the present purposes that the exchanges cancel each other out and the consumption involved is included in the norms described above.

Yakur houses are, with minor repairs, durable for 8 to 12 years, but the roofing must be replaced, sometimes piecemeal, at least every two years. The total cost of building the small house used by the man and the larger house of the wife and children can be estimated fairly closely. Only the skilled construction of the dried mud partitions, beds and ledges are usually paid for in cash, the other work being provided by the members of the household and by friends and relatives who are rewarded with food. The value, at local prices, of all the housing construction required by one small household is about 28s., of which £1 represents durable construction, good for 10 years, and 8s. items that must be replaced every two years. Thus the average annual value of work and supplies for housing will be approximately 6s., of which only about 2s. takes the form of payments in cash or kind.¹

TABLE III
BASIC ANNUAL HOUSEHOLD EXPENDITURE, UMOR, 1939

Composition of household: 1 man, 1 wife, 2 children.

		<i>Value at Local Prices</i>					
		<i>Home-produced</i>			<i>Purchased</i>		
		£	s.	d.	£	s.	d.
Food Supply:							
Farm Products—Yams	-	4	18	0			
	Coco-Yams		4	0 ²			
	Other	-	1	0			
Palm-Wine ³	-	-	1	10			
		£7 12 0					
Meat	-				10	0	
Clothing	-				12	6	
Cutlery and Utensils	-				4	0	
Tobacco ⁴	-				5	0	
Cosmetics and Ornaments	-				2	0	
Housing	-		4	0	2	0	
		£7 16 0			£1 15 6		

i.e., a total consumption of £9 11 6

¹ The approximate values of component items for a woman's house of ordinary size are:

	s.	d.
Framework: materials and construction	-	3 4
Walling: prepared mud and construction	-	1 8
Skilled plastering (cash-payment)	-	3 6
Roof matting (materials, making and erection)	-	5 4

13 10

² A large number of households buy part or all of their coco-yams.

³ About half the households purchase palm-wine, but most younger men provide their own and sell a surplus.

⁴ Tobacco is not universally smoked or taken as snuff, and is not purchased by poorer men.

The foregoing survey of basic consumption suggests that a small household needs funds for an annual cash outlay of about £1 15s. 6d. per annum. But money is also needed to meet other demands outside the direct household consumption. The most rigid of these is the annual government capitation tax of 5s. payable by each able-bodied man;¹ but cash for a variety of other purposes is needed. These include payments for admission to clubs, contributions to marriage payments,² fees for the minority of children attending the small mission school, payments of court charges, fines and consideration money to the native court, ward heads and others, all of which would require an average annual expenditure of about 10s. on the part of the household head, and a further 2s. by his wife. Thus, the money income needed to meet the basic cash outlay of a small Umor household can be estimated as being from £2 10s. to £3 a year, although in any one year the need may be considerably above or below that sum.

While there are wide variations in the extent to which savings are made when a cash surplus is available, most household heads and married women do hold over savings in coin from year to year, and it is also possible to obtain interest-free loans from matrilineal kinsmen to meet demands which exceed one's own resources.³ In addition to cash savings, every household has assets, household equipment and personal property, some of which can be realised at need. It is difficult to estimate the value of such equipment but sample inventories indicate that for a small household it is likely to be worth £2 or more, while for an exceptionally prosperous one it will exceed £10.

It will be useful to compare the estimate of annual cash outlay needed by a small household with the cash income attainable by that household with reasonable industry, at the prices of recent years.

¹ For a general discussion of the taxation system see the chapter on Public Finance in Volume II.

² These may include arrears on the head's own payment or contributions to the payments of kinsmen. There is not space to analyse the economic situation here, but it can be roughly estimated that the equivalent of an annual accumulation of 5s. is needed to meet such demands. The standard level of marriage payments has declined in Umor from £5 5s. to half that amount during the last decade of falling palm produce prices. See Forde, C. D., *Marriage and the Family among the Také*, 1941.

³ Enquiry among 81 households revealed that 55 of the heads held cash savings which ranged in value from as high as £30 in a few instances, such as ward head and large-scale trader, to 5s. at the other end of the scale. The average, excluding the two very large items, was in the neighbourhood of £1 10s. The total of savings far exceeded the aggregate debts. These were recorded for a total of 13 men, mostly of long standing, and ranged from £3 to 5s.

TABLE IV
ESTIMATED ANNUAL CASH INCOME OF HOUSEHOLD,
UMOR, 1939

<i>Man:</i>					<i>s.</i>	<i>d.</i>
Sales of palm-oil, 12 tins at 1s. 2d.	-	-	-	-	14	0
„ palm-wine	-	-	-	-	8	0
„ harvest yams, 100 at 7s.	-	-	-	-	7	0
„ rope, etc.	-	-	-	-	4	0
					£1	13 0
<i>Wife:</i>						
Sales of palm-kernels	-	-	-	-	15	0
„ early yams	-	-	-	-	4	0
„ other vegetable produce	-	-	-	-	2	0
„ mats	-	-	-	-	2	0
					£1	3 0
<i>Total for man and wife</i>	-	-	-	-	£2	16 0

Estimates for all the items here are moderate and very approximate. The output in all cases could, without great effort, have been exceeded, but on the other hand the majority of households do not in fact produce substantial surpluses of all these goods.¹ One or other is generally omitted. The level of cash incomes has during the past decade, fallen below the level of the norms of cash expenditure established when palm produce prices were high. Curtailment of expenditure does not appear, in fact, to have kept pace with the fall in current cash incomes the difference being met by depletions of savings and the receipt of loans from more fortunate kinsmen. The average level of household expenditure, low as it is, has probably not adjusted itself fully to current levels of money income, but is still influenced by standards established in the 'twenties.²

The levels of output and consumption in Umor have been presented above for a small household unit of one man, one wife and two young children. It should, however, be emphasised that the more energetic and prosperous men have in the recent past had two or three wives.³ At the same time a considerable number of the petty traders are young men who have not yet taken up farms of their own and contribute to their parents' household outputs both from their trading receipts and by help in farm-work at busy times. There are, therefore, a considerable number of households containing from three to six adults and these are generally the most active in the community. From the sale of palm products and considerable surpluses of yams, they appear to secure a cash income more than pro-

¹ See p. 53, Table II above.

² Marriage payments, for example, remained so high that several years were required to complete the transaction.

³ For the social and historical contexts of Yakur polygyny see Forde, *op. cit.*

portionately greater than the norm for a small household as estimated above. On the other hand, there are 'poor relations', generally members of small households who, through disability or misfortune, have outputs well below the general level. In many such cases both the men and women offer their labour at times of planting and harvesting in return for payments in yams which enable them to make up the deficiencies in their own farm outputs. Some such men also attach themselves to prominent kin group or ward leaders, or to traders, serving as messengers and supporters in return for occasional gifts of food and clothing.

The economic condition of the households of Umor ranges from that of a prominent man who may be head of his ward, and a leader in one or more clubs, with several wives and male dependants and whose income from various sources, including consideration money in connection with court cases, may exceed £10 a year, with savings of between £20 to £40, to impoverished household heads who feed very poorly, and can barely afford to buy a single cloth and a few utensils in the course of a whole year.

3. THE ECONOMIES OF TWO SOUTHERN IBO COMMUNITIES

(a) THE OZUITEM IBO OF BENDE

Although the physical conditions are fairly similar to those of the Yakur, the economic system among the Ozuiitem Ibo, thirty miles away in Bende division to the west of the Cross river, is rather different. The density of population has not been closely determined but it is significantly higher than that of Umor and is probably more than 300 per square mile. The Ozuiitem also differ conspicuously from the Yakur in their better road communications with the dense urban and rural populations to the south, which are deficient in local food supplies, and as a consequence, in their greater concentration on the production of food supplies for export. This further enhances the value of good and accessible farming land, and has led to transactions whereby 'owners' can secure cash for transfer of land rights for varying periods and cultivators can extend their holdings outside the framework of the dominant system of kinship rights to land.

Land Rights

The system of land tenure in this group has therefore great importance and interest and we are fortunate in that a careful field investigation has been undertaken by Dr. J. S. Harris.¹

As in Umor, most of the farmland at any one time is controlled by a

¹ Harris, J. S., 'Papers on the Economic Aspect of Life among the Ozuiitem Ibo', and 'Some Aspects of the Economies of Sixteen Ibo Individuals', *Africa*, v. 14: 12-23; 302-335, 1943-4; and 'The Land of the Ozuiitem Ibo' (Unpublished MS.).

number of groups of kinsmen whose members have inherited the usufruct of particular tracts of Ozuitem land. When brought into cultivation from hitherto unclaimed bush, land may be cleared co-operatively by individuals or by members of patrilineal kin groups of varying extent. Where land had been cleared co-operatively by a kin group, large or small,¹ the members and their descendants are allotted portions according to seniority when it is desired to cultivate the tract again after a period of bush fallow. But when land has been cleared or otherwise acquired by one person, while it is also held in common by his descendants, the usufruct of particular plots is permanently assigned to individuals at the time of their inheritance. The communal control consists in the requirements of collective assent to any disposal of such land to non-members, and of the re-allocation of the land as a whole on the death of any one of the inheritors. Moreover, the usufruct of such land, which appears to form the greater and more valuable part of the farmlands, never passes to the men of a younger generation until the last of the older generation has died. Thus, survivors among the inheritors secure control of increasing areas and, while they can delegate most of the farm work to sons and other young kinsmen, they yet retain control of the land and its produce. After three or four generations, when the memory of the original acquisition has faded and the number of claimants has multiplied, these special conditions of tenure lapse and the land comes to be regarded as ordinary kin group land to be allocated at each period of use according to seniority and need. But so long as personal control continues it will have obvious effects on the amounts and disposal of crop surpluses and will lead to a concentration of purchasing power in the hands of the older men, while placing younger men in a condition of economic dependence which is quite foreign to the Yakur described in the previous section. Unfortunately, no analysis of the economic and other social effects of this system is so far available.

Personal rights to land may have been chiefly secured in the past when individuals made clearings in hitherto unfarmed land on their own initiative. But practically all new personal rights to-day have been obtained by securing pledged land or by purchase. The Ozuitem recognise purchase as do several other Ibo communities.² Its incidence is, however, reduced by the fact that it is still not accepted as a normal economic transaction. Every effort is made to secure funds by pledging land rather than by sale.

The pledging of land is a still more firmly established practice among the southern Ibo. It is part of a pattern of nominally temporary transfer of

¹ i.e. by a clan as a whole or by one of its component lineages.

² See Meek, C. K., *Law and Authority in a Nigerian Tribe*, 1937, pp. 103-4, and Field, J. O., *Man*, v. 45, No. 47, 1945. Land is normally sold at twice the amount which would be received in pledging it, typical prices in 1938-9 being 30s. for pledging and £3 from the outright sale of a plot capable of growing 2,000 yams when farmed with a four year bush fallow after one crop.

useful resources and implements in return for a non-interest-bearing loan which embraces trees, clothing, tools, in fact nearly everything except farm crops. Redemption is subject to conditions for the compensation of the pledgee if he has not had full benefit of the usufruct.¹ Rights to pledged land are inherited as are any others and pledged land may similarly be repledged to a third person and so on. If land is not actually redeemed by the third generation, the rights of the pledger's descendants cannot usually be clearly substantiated and are, in any case, not generally countenanced, the native courts holding that the rightful occupiers are those who have been in occupation for the past generation and more. In this way pledged land has continually passed into the hands of a pledgee's descendants.²

While sales and pledges effect permanent or long-term transfers of land, shorter transfers are effected by annual rentals. Between members of the same hamlet the rent is often half what it would be for outsiders and may not even be specified but made in kind by the tenant at harvest; but strangers have to undertake to make specified cash-payments for each season.³

Rental is sometimes combined with trusteeship when the land is distant from the home of the owner or owning group. The farmland is then left in the care of a local man who uses some and rents out the rest, sharing the fees with the owners. Annual rentals for cash-payment appear to be largely confined to land which is conveniently situated in relation to existing farmlands. The usufruct of more remote areas which are inconvenient to farm can generally be secured for a long term by men of a friendly neighbouring settlement by a token payment of palm-wine.

Although, as among the Yakur, women have, in principle, no direct rights in land, not only has a woman, so long as she helps to farm her husband's land a right to space for her crops, but she may, in fact, secure personal control over land by providing money for purchase or securing pledged land through a male proxy. She is then by custom allowed full

¹ Land is also handed over with rights of usufruct as security for money loans at interest. Such a transaction appears to differ from a pledge in the debtor's right to immediate re-entry on repayment of the loan. Interest of about 20 per cent for two months is obtained for such loans but it is not clear whether the sum secured is greater or smaller than would be obtained by pledging.

² The contraction of money incomes among the Ozuitem and other Ibo in recent years has meant that land once pledged has been especially difficult to recover since the accumulation of the sum received is so slow and uncertain and is likely to be overtaken by new demands for expenditure.

³ Renting in order to meet temporary needs for farmland on the one hand and to secure small increases in cash income on the other are widely reported among the Ibo. It is said that men will sometimes offer for rent land that is not sufficiently rested to satisfy their own standards of productivity irrespective of the ultimate effect on the soil. In Onitsha an annual rental of 5s. is reported for land sufficient to occupy fully one man, presumably with a wife.

control of the rights secured.¹ The effect of these regulations on control and transfer of farmland may be briefly summarised as follows:

(1) Control is highly divided among groups of varying size down to individuals but most land-holding groups are numerically small. The lineage of some 10 to 30 living men is the largest significant controlling group, apart from virtually unexploited land.

(2) Regulations prescribe obligations to divide group holdings among all members, while dependents of members of groups have customary rights to a share in the crop which they help to produce.

(3) The reversion of apportioned holdings of personally acquired land into commonalty for redistribution after three or four generations tends to restore equality of distribution within kin groups.

(4) Arrangements for renting and pledging land compensate for discrepancies in average amounts of fertile land per head between different kin groups and neighbouring settlements and the variety of means of obtaining usufruct for varying periods ensure the availability of a plot to any able-bodied person.

(5) A large land inheritance, however, confers a permanent benefit on a kin group, or village, since it receives fees from its surplus land which is offered for rent or pledge.

(6) Recognition of land transfer affords opportunities for redistributing ancestral land between individuals and kin groups whereby the fortunate and thrifty accumulate land for their descendants at the expense of the spendthrift and litigious. There is, therefore, opportunity for differential accumulation of land holdings and the emergence of a land-owning class.

Farm Labour and Food Supplies

Although the general division of farm labour whereby men clear the land and plant and harvest yams while women attend to all other crops, does not differ greatly from that described for the Yakur, these distinctions are not sharply held to and there appears to be flexibility according to the needs and circumstances of households and individuals.² As among the Yakur, men's farm labour is combined with the exploitation of wild oil-palms.

Cassava and coco-yams occupy a greater area and contribute more to the food supply than do yams, which rank among the Ozuitem as a luxury and export crop. Although no statistical data are available, it appears that the greater part of the yam crop, most of which is owned by men, is sold to secure cash income. Coco-yams and cassava are grown and supplied for

¹ Women may also rent land directly in Ozuitem although it is again thought more fitting to act through a proxy. Land held by a woman in these ways passes at her death into the control of her husband, but he is regarded as a trustee for their sons, and succession is restricted to male descendants of those sons.

² Thus among the Ikwe and Ezza, who achieve a very high standard of yam cultivation, this is almost entirely in the hands of men, their wives giving assistance but being much more closely directed and supervised.

household food mainly by the women, as are bananas and most of the subsidiary crops. Although yams are regularly exported, most households are largely self-sufficient in both food staples and in most secondary vegetable elements of the diet.

In Ozuiem, the man was traditionally obliged to provide the staple food supplies from his yams for the first quarter of the year after the yam harvest (using mainly those of second quality in recent times) until the first coco-yams, grown by women, were ready to be harvested. Wives had then to provide the staples, coco-yam and cassava for the rest of the year. Dr. Harris found, however, that both men and women co-operated in providing household food throughout the year. Cassava can be dug at any and all times, while yams are provided in small amounts over much of the year from the man's store as long as they are available.¹

A superior quality of yam normally forms the major part of a man's crop and these he regards primarily not as a source of food but as a means of securing cash income. Superior yams are regularly eaten only by a small well-to-do minority. The supply of them is limited by the economic pressure which militates against the use of large quantities for replanting and so building up the harvest at the expense of immediate cash income. A harvest of 100 sticks (approximately 3,000 yams) is marked ceremonially by men who thereby demonstrate their success and eminence. Such large harvests do not appear to be achieved by the majority. Matching the considerable net export of yams in Ozuiem is a smaller net import of cassava and coco-yams. As among the Yakur, there was much petty and mostly internal trade among women in minor foodstuffs.

On the other hand, however, almost every Ozuiem household investigated by Dr. Harris disbursed considerable sums for food supplies. A considerable part of this was spent on supplies for gift exchanges and can be set off against food sales which were in most cases considerably larger than the purchases.²

¹ Secondary foods, most of which are interplanted between the yam hills, are provided mainly by women and to a less extent by men, throughout the year according to who is responsible for producing the particular crop. Women grow at least twenty-one different crops on their farms and seven are commonly found on the small plots manured from sweepings near their houses.

² The people of Ozuiem claim that in the past, before cassava was first introduced at the beginning of this century, there was often a severe food shortage in the three months (June–August) before the annual yam harvest. A long established system of food transfers during this period is still practised whereby food gifts are made by those having available supplies on the understanding that money gifts will be made in return. Men are also under obligation to make food gifts to their wives and female kinsfolk which ultimately benefit the households of these women. As men have no ripe crops of their own at this season, it involves them in purchase of food supplies at high prices. The net effect of this system appears to be a wider distribution of the available food resources at this season, and the transfer of some of the men's cash income received from other sources to women who have food crops available.

No numerical data on the numbers and uses of livestock are available, but there are very few dwarf cattle which, when required for the occasional slaughtering at a club 'title feast', have often to be obtained from outside. Goats are more generally kept and, as among the Yakur, there is a considerable stock of chickens which both men and women own and sell as personal property. Their sale figures fairly regularly in the budgets of households. They are a minor source of income for the average household, being purchased for ceremonial occasions. Very little animal protein is consumed and most of that is purchased. Although land snails, bush rats caught in farm traps and miscellaneous grubs and insects are obtained in small amounts, the purchase from time to time of small quantities of dried native fish and occasional fresh or dried meat accounts for most of the very occasional production. Stockfish appears to be purchased to a much smaller extent than among the Yakur.

Oil-Palm and Other Production for Exchange

Palm-oil and kernels are again an outstanding exchangeable product, although, as has been seen, yams are also primarily a cash crop and the cash return on the sales of these and other food crops frequently exceeds that for palm products. Oil-palms appear to be less abundant than in Umor while the local prices are probably lower on account of the higher discount for rail, as opposed to river, transport.

Thus, in a small sample obtained in 1938-9, sales of foodstuffs, mainly yams, by men amounted to almost twice the value of palm-oil sales and the ratio would have been far higher but for one particularly rich man who engaged in palm-oil production with paid labour which was said to be quite exceptional.¹ It is also suggested that a considerably smaller proportion of men than in Umor, only 30 per cent in the sample,

	Yams	Other Foodstuffs including Palm-Wine and Kola	Palm-Oil
1.	£3 0 0	£0 5 0	—
2.	4 10 0	1 0 0	—
3.	0 15 0	0 4 0	—
4.	1 7 0	0 9 0	0 15 0
5.	0 17 0	0 15 0	1 10 0
6.	2 0 0	0 2 0	—
7.	1 10 0	0 9 0	—
8.	—	0 1 0	—
9.	—	—	—
10.	—	—	7 2 6
	£13 19 0	£3 5 0	£9 7 6
		£17 4 0	
Average	£1 8 0	£0 6 6	£0 18 9

For further details see Harris, *Africa*, v. 14: 302-335, 1943-4.

produce palm-oil for sale. Women's sales of palm produce are even smaller in relation to their sales of food despite the fact that they rarely have yams to dispose of.¹ The lower intensity of palm-oil production, as compared with the Yakur, is indicated by the fact that there is a considerable purchase of palm-fruit clusters by women for the extraction of edible oil and of their collection of dried-out fallen fruit for extracting kernels.²

No detailed information is available concerning rights to oil-palms among the Ozuitem but, generally speaking, the right to exploit oil-palm belongs to the holders of the land and rights to particular trees depend on whether they stand in land that belongs to the community at large, to a particular kin group or, as especially in the case of a farm plot in cultivation, to an individual. In some Ibo communities, as more generally among their Ibibio neighbours to the south-east, more specific regulations governing access to palms have been developed as their commercial value and the demand for their produce has increased. In some cases, these have tended to retain palms in common ownership with public access in opposition to the tendency for growing personal rights over land, particularly over the farmlands on which palms may stand. The declaration of open and closed periods for cutting fruits, the denial of exclusive personal or kin group rights in palms growing on planted lands not under cultivation and even the throwing open of palms on private lands to common exploitation for certain periods have been established while communal trees have been pledged to strangers to raise funds for public purposes.³

Production of commodities other than yams and palm produce for exchange is very minor and miscellaneous in character, including such items as occasional goats, chickens, trapped game and mats made for sale by women, which may yield a shilling or two in a year. On the other hand, a small minority of men receive considerable cash incomes from the renting of farmland. Two out of a small sample of ten men received such fees, amounting to 30s. in one case and 5s. in the other. Still fewer men receive cash incomes from money loans.

¹ Thus the total annual value of the sales of their own produce by six women was:

Yams	-	-	-	£0	15	0	(by one woman only)
Other farm crops	-	-	-	1	1	0	
Palm products	-	-	-	1	19	0	(including edible oil for local use as well as kernels)
Other bush products	-	-	-	1	4	0	(mainly collected foodstuffs)
							£4 19 0

² Dr. Harris makes the interesting statement that the production of palm-oil and kernels was, according to the Ozuitem, confined to women until late in the nineteenth century and that men had participated only with the decline in the slave trade which had previously provided their main source of money income.

³ Instances of these practices are cited by Mr. Bridges, *op. cit.*

Wage Labour

Wage labour paid in kind was not entirely absent among the Yakur but it was very sporadic and small in amount. In Ozuiem, on the other hand, not only do those who lack sufficient good land or planting supplies of their own undertake wage labour for their fellows, but there is also seasonal export of labour. Women, although they rarely leave the village to work, frequently undertake a few days' work on a farm or crack kernels for payment. A typical example would appear to be a receipt of 1s. 3d. plus food for five days' work on a farm.

(b) IBO ECONOMY IN A CONGESTED AREA

As was indicated earlier, the density of the rural population in some Ibo areas east of the lower Niger in Onitsha and Owerri provinces is reliably reported to exceed 1,000 per square mile. No demographic enquiries sufficiently exact and extensive have been made to determine closely either the actual densities or what *continuous* areas they cover. There is indeed some reason to believe that the very densely settled tracts are narrow zones flanked at no great distance by others of much lower density. This suggests a mal-distribution of population in relation to land and other resources, the correction of which might go far to reduce the congestion in some localities.¹ Despite the lack of precise and comprehensive data, however, the fact of such congestion cannot be doubted. In some communities, the pressure on land is such that with existing techniques of cultivation it would be quite impossible to raise sufficient food to sustain the population, while the attempt to secure the greatest return of foodstuffs from the available land has in fact led to a reduction in both quality and quantity of available food supplies. The shortening of the period of bush fallow to the barest minimum has issued in the evils of soil exhaustion.

In the absence of a comprehensive study of the economy of a single community in which these conditions prevail, Miss M. M. Green's more general enquiries in the Ibo village of Umueke, are particularly valuable. They make possible a general sketch of economic conditions in a congested

¹ An experienced district officer with anthropological knowledge, who has enquired into the variations in population density and intensity of farming in Okigwi division, considers that the very dense populations (600-1,000 per sq. m.) are confined to narrow belts flanked by zones of progressively lower population densities. The congested villages, at least on the borders of the belt of densest settlement, find accommodation for farming on the land of their less congested neighbours. In one such area in a transection of only 8 miles, the density ranged from c. 1,000 per sq. mile in one village territory, to c. 450 in the next, and only c. 200 per square mile at the far end in which there was a considerable surplus of farming land available. Owing, however, to the fact that the people in the densest zone would not or could not travel as far as 8 miles to make and work farms, and were not able or prepared to migrate, they rented land only in the zone of intermediate density.

area in the densely populated southern part of Okigwi division.¹ The village of Umueke, with a population of 360 and an area of about 0.5 square miles, forms part of the scattered 'village group' of Agbaja, made up of eleven 'villages'. The density of population in Umueke itself was not closely determined but was over 600 per square mile.²

The general pattern of economic activity appears to follow very closely that described above for Ozuitem. The same commodities are produced in the same way and land rights are similarly acquired and transferred. But the density of population in Umueke is probably twice as great. Since the basic features of the economy are so similar, comparisons of output and standards of living between the two communities afford a valuable means of estimating the effects of greater density of population.

In Umueke, there is little or no bush which is not claimed for periodical agricultural use apart from a few small ritually important sites which are specifically excluded. Although explicit outright sale of land is not recognised, a system of disguised purchase exists whereby a sum greater than the standard amount receivable by pledging is handed over, both parties knowing that redemption is neither intended nor practicable. The proportion of pledged and rented land appears to be very considerably higher in Umueke than in Ozuitem. The normally accepted cycle of land use in Umueke is also much shorter: it is one year of farming followed by two of bush fallow. During the latter, however, cassava left in the farm plot is generally gathered regularly as a secondary source of food supply with a consequent reduction in recovery of fertility.³ The actual cultivation cycle varies considerably, however, from household to household, since the available land is at any given time parcelled out unevenly among kin groups and individuals with respect to both areas and fertility. Although this uneven distribution is to some extent mitigated by the leasing and pledging of land, there are nevertheless land-rich persons and groups of kinsmen who can, and do, allow longer fallows and, on the other hand, land-poor people who endeavour to cut the resting period down still

¹ See Green, M. M., *Land Tenure in an Ibo Village*, 1941. I am also indebted to Miss Green for replies to a series of questions concerning economic conditions in Umueke. In Okigwi, as over the greater part of the Ibo country, settlement is not concentrated in considerable centres as among the Yakur but scattered over the land in a large number of close-lying house groups. A few neighbouring house groups are integrated into a local group of 300 to 500 persons which may be called a village and is itself part of a wider community of 2,000 to 3,000 people often referred to as a 'village group'.

² In the Okigwi division, as a whole, it is believed to be over 500 to the square mile and it is known to be much above the average in the southern part of the division in which Umueke is situated.

³ The extent to which cassava exhausts the soil appears to be more uncertain than was formerly thought, but continual cropping will in any case lower fertility. Both the effects of cassava on soil fertility and its value as a food require further investigation.

further. As little as one year of fallow is all that is said to be allowed in a village near Umueke, while men with sufficient land normally rest their farm plots for more than two years.

Yams are regarded as a potential cash crop, but the yam surpluses actually achieved are much smaller than in Ozuitem and contribute far less than palm products to the total of production for sale.¹ The evidence of household consumption and of market transactions indicates that there is a considerable net deficit of food supplies for local consumption which is met by the import of cassava and coco-yams from adjacent areas. Thus a proportion of the locally produced superior food, yams, is exported while a larger amount, by value, of inferior food is imported. The balance of the cost of food imports is met chiefly by the sale of palm products and by exported labour. Neither livestock nor game, of which there is very little apart from rats, appear to make any substantial contribution to either the food supply or the exchange production of the ordinary household.

The majority of households in Umueke are said to be engaged in palm-oil and kernel production, but the outputs do not appear to be high. Although the Okigwi division is one of the few areas in which there has been a recent and considerable advance in palm-oil production through the introduction of imported oil presses, there was only one press in Umueke in 1937 and most oil extraction was still carried out by native methods.²

Migrant Wage Labour

In Umueke a very large proportion of the younger men and some of the younger women seek paid labour outside the community for varying periods in the year and the situation is probably characteristic of the south of the Okigwi division in general, of which it was recently reported that a very large number of men leave the densely populated part of the division every year. Most men go out to clear and prepare farms for others in less congested and more prosperous areas such as Bende to the east and Oguta and Ahoada to the south-west. They return to prepare the farms of

¹ Yams are grown almost entirely by men and a considerable harvest is only about 20 sticks of very small yams or from about 500 to 600 in all worth about 4s. 3d. per stick at planting time. Not more than half of these would be available for sale after allowing for planting needs, losses and household use.

² Marketing involved a ten mile journey on foot to a trading post. The *per caput* palm-oil and palm-kernel output does not appear to have been any higher than that indicated for Umor, but the output is doubtless larger per unit area. The growing shortage of oil-palm resources is reflected in a recent dispute concerning attempts to enforce the restriction of the right of cutting palm-fruits, to members of the kin group owning the land on which particular trees stood. This was strongly resisted by the younger men, for whom the preparation and sale of palm-oil is regarded as an important means of securing funds for marriage payments, who desired freedom of access to this source of wealth. Women are said to devote most of their returns from the sale of palm-kernels to the purchase of food.

their own households and then go out again cutting palm-fruit for others. With the development of lorry transport an increasing number also travel greater distances and are found working in the Benin timber concessions and coastal centres as far afield as Lagos. The wages received by those going out to work on farms is as low as 3d. per day plus food and lodging. Most of the cash received is brought back to the village although small sums are expended on cloth and other personal goods. For some areas the proportion of young men and girls who go out for seasonal labour is estimated as high as 30 per cent, but for Umueke the proportion is probably less, particularly for girls, although exact data were not obtained. While most of the men engaged in seasonal labour outside the community are youths who seek in this way to secure the money for their marriage payment, a considerable number of men continue the practice after marriage and combine it with their own farming. Differences in the customary times of planting and harvesting crops in various areas and the fact that cassava can be planted and dug at almost any time make possible the dovetailing of outside labour with subsistence farming at home. A few men go away for the greater part of the year, returning to their own households and farms only for a few weeks in March-April and November-December for the planting and harvesting of the yam crop. But the majority are absent for only two or three periods of about two months. This outside labour is not confined to farm work; another common form of paid work is the portering of farm crops, native fish and other products to market.

The cash incomes derived from men's outside labour can be roughly estimated as ranging from 10s. to 25s. per annum according to the period worked and wages secured, and it would seem likely that in at least one household out of every five an income from paid labour is obtained. Although much of it would in many cases be paid over to others for marriage payments, much of this is quickly disbursed by the recipients in expenditures on food and other consumers' goods.

Emphasis on Accumulation of Currency

Despite their poverty the people of Umueke cling to the economic pattern, traditional among the southern Ibo from more prosperous days, whereby the accumulation of large sums in currency is required for disbursement in payments and displays on ceremonial occasions. Unfortunately, no close study of these accumulations and transfers of currency, which are very considerable in relation to individual money incomes, has yet been made. Their social context and economic effects merit attention, both as indications of the great economic flexibility and enterprise of the southern Ibo and in connection with efforts to develop their economy. While the expenses of title-taking feasts in the men's clubs may involve greater sums, the most important and widespread of the large disbursements are the

marriage payments made by husbands to their wives' kin.¹ Both the standard marriage payment and the sums actually transferred in Umueke, as well as in the surrounding Ibo communities, is very much higher than in Umor.²

A considerable part of the cash incomes of young men, mostly from the sale of palm-oil and paid labour outside the community, are devoted to accumulation and transfers for marriage payment, the need to secure the 'bride price' being commonly given as a reason for seeking wage labour.³ Since there is no evidence that sums received as marriage payments are used for any economically productive purpose it might at first sight appear that the practice involved an uneconomic and even injurious hoarding of currency. But it is doubtful whether the currency received for marriage payments is, in fact, hoarded for any considerable period. Not only is it accumulated and transferred in small instalments of £1 or so, but the recipients themselves usually have urgent calls for disbursement of the sums they receive. They will be subject to demands for contributions to the marriage payments of others, such as their own sons and other male relatives. They will also, as known recipients of currency, be called upon to meet debts and other urgent needs of their relatives as well as their own. It is, therefore, probable that the sums accumulated and paid over for marriage payments circulate fairly rapidly. Indeed, it would be difficult to understand how so high a level of payments could be maintained, when cash incomes are so low, if this were not the case. On the other hand, the need to accumulate funds for this purpose and the fact that at any given time a considerable amount of currency circulates in this non-productive way increases the need for money and slows down its circulation. As is pointed out elsewhere, the supply of currency under existing monetary arrangements involves considerable cost to the country so that a low velocity of circulation is particularly undesirable.⁴

¹ On the economic aspects of Ibo title clubs, see Meek, *op. cit.*, Chap. 7. The title system is, however, not nearly so elaborate and expensive as in the areas described there.

² The traditional 'bride price' is £15 but this has rarely been fully paid or even demanded in recent years. On the other hand, in contrast with £3 to £5 in Umor, sums of £11 or £12 were being agreed to in 1935 and 1937 and from £8 to £10 were actually transferred. Marriage payments are not, however, handed over in a single sum. Wives often join their husbands when little or even nothing of the promised amount has been paid. The settlement is generally by instalments continued over several years.

³ Assuming that the sum of £8 is normally paid, it will be seen that the money returns on several years' seasonal labour would be required to meet it. Actually, however, much of the outlay is covered by exchange within the family where sums received in respect of the marriage of a daughter are provided for the marriage of a son. Contributions are also received in other cases from the parents and other senior relatives of the groom and these will be derived from cash returns from the sale of palm products and yams.

⁴ See the chapter on the Monetary and Banking System and Loan Market of Nigeria in Volume II.

Social benefits undoubtedly accompany the transfer of payments at marriage where kinship ties are prime regulators of personal and public obligations, and the sudden dissolution of a system of marriage payments can have serious effects on social stability. But the system appears to involve a considerable economic cost, a cost which may contribute substantially to the vicious circle of poverty in congested areas of low economic development. A close investigation of the economic effects of marriage payments is very badly needed in southern Nigeria and especially among the impoverished communities in congested areas.

The sums currently received from the sale of palm products or from seasonal immigrant labour do not suffice to meet the needs for money payments that arise for many persons. While it is possible to obtain money by pledging land and other goods, this is regarded as an extreme measure and undertaken with great reluctance. In Umueke the need for saving to provide small sums of ready money is partly met by considerable use of a pooling system, which serves as a means both of regular saving and of obtaining interest-free loans. This pooling system, absent among the Yakur and other people east of the Cross river, is now very general among the Ibo and by no means confined to the poorest communities.¹ It is socially more important among women than men, but the men's groups make and disburse larger contributions. Each member of a group, which may have up to fifty members drawn from several villages, acts as host in turn and receives the payments contributed on that occasion. The contribution, apart from food and other supplies for the feast, will as a rule vary from 1d. to 3d. and there are usually fines and other sanctions for failure to make regular contributions.² The significance of these 'meetings' lies not only in their direct economic importance as a means of actually accumulating money which can be used to meet occasional and more substantial needs for money payments (there is little evidence as to how effective they are for this purpose), but they are also important as a native response to the needs and opportunities which an increasing dependence on currency presents. While indicating that this opportunity for developing the practice of saving is present even in the poorer communities, they also suggest that this should be attempted not on the basis of appeal to prosaic individual providence alone, but within the framework of group activity and with some ceremonial elaboration. In other words, the sociological equivalent of the means we employ in war-savings drives, such symbolic objectives as battle-

¹ In Umueke it was reported to have been introduced only ten years or so before 1937. It is similar in principle to that found among the Hausa in northern Nigeria. This savings system—known as mikiri—an Ibo rendering of the English word 'meeting'—has developed in association with periodic jollifications.

² Among men there has been some attempt to organise more ambitious groups which accumulated larger funds to be loaned at interest, but these have quickly broken down through failure by members and borrowers to meet obligations incurred.

ships, and inter-group competition, are needed and can be secured among these people.

Levels of Consumption

Although no sample budgets or other statistical data are available, there are clear indications that the levels of consumption in Umueke are well below those of less densely populated rural areas in the eastern provinces. The supplies of cassava and coco-yam, which form the food staples, have to be eked out over the year and severe shortages from lack of farm supplies and means to purchase in the market are frequent in many households. Visitors from less congested areas comment unfavourably on both the quality and quantity of the staple foods, noting particularly the greater reliance on fruits, especially plantains, as a means of eking out the root crops. The yams, both for sale and for local consumption, compare unfavourably in size with those from areas where there is less pressure on land and are indicative of the greater exhaustion of the soil. Finally, the inadequacy of local food supplies and the dependence on imported vegetable produce appear to be responsible for the high prices in local markets. Cassava and coco-yams are sold at prices from 20 per cent to 50 per cent higher than those ruling in less congested areas to the south and east.

The majority of households eat practically no meat for months on end. Native dried fish, stockfish, and small supplies of Fulani cow meat as well as bush rats, are offered for sale in the markets, but the quantities purchased by individual households are very small. Many of the women, especially the older among them, are thin to the point of emaciation, and are said to forgo food so that their children may have enough. It is also a commonplace that those who have been away to work, especially young women, come back much plumper and generally more fit than when they went away and this is attributed to the good food that they are given while working away. A further indication of the relative poverty of the people of Umueke is indicated by the almost complete absence of the more expensive imported goods, both those for consumption and those used for further production or trade. No one, for instance, in 1937 owned a bicycle and the only sewing machine belonged to an itinerant tailor who visited the village.¹

The comparison of Umueke with Ozuitem, and consideration of the levels of consumption found in the former, leave little doubt that a density of population of 600 per square mile is excessive under existing technical and economic conditions. With the present agricultural techniques the people are unable to produce a sufficiency of the agricultural food staples and are net importers of vegetable food supplies. The marketable surplus of other products and the export of labour has not, however, in recent

¹ In the 'bicycle belt' extending from Calabar to Orlu this form of transport is of great economic importance.

years been sufficient to support an adequate level of imports to maintain even the food standards locally desired. At the same time, in the attempt to secure by customary means the maximum food supply from an inadequate area, the bush fallow period has been cut down to a point at which soil recovery is impossible, so that both the supply of plant nutrients and the physical condition of the soil are subject to progressive deterioration and productivity is being still further reduced. This leads, of course, to further reductions in the agricultural output. Umueke exhibits in miniature the conditions in the more backward and poorer parts of the over-populated area, in a belt of country occupied by several hundred thousand people, extending from Onitsha on the Niger south-eastward to Ikot Ekpene near the mouth of the Cross river.¹ Congestion of population under conditions of poor agricultural technique and severe limitations on alternative sources of income and on imported food supplies, condemn such areas to levels of consumption which are not merely declining but are already well below the physiological minimum. The problem of breaking this vicious circle is discussed in a later section where past attempts and future possibilities for development are considered.²

4. RURAL ECONOMY IN THE WESTERN PROVINCES

(a) INTRODUCTION

The subsistence elements in the native economy of the western half of the forest belt, roughly west of the Niger river, are essentially similar to those already described for the east. But over the greater part of the area a number of distinctive features of technology and social structure modify the character of economic activity and the distribution of economic rewards within the community.

Technically, the important difference lies in the presence of more advanced and more widely practised crafts. Of these the most outstanding is cotton-weaving, which continues to provide a considerable proportion of the local supply of clothing. This still entails the cultivation of cotton, especially in the more northern areas and particularly in Oyo province, for the supply of textile material. Cotton-spinning is a widely diffused minor source of income, and weaving is in some areas an organised full time activity for men. A native indigo-dyeing industry, originally based on native cloth production and now extended to imported calico, is also of considerable importance in main market centres.

It is important to recognise a general difference from the eastern provinces in the customary division of labour between the sexes. Among the Yoruba, women usually take little or no part in the actual farm work apart

¹ Densities of over 1,000 per square mile are reliably reported from parts of the Awka, Owerri, and Okigwi divisions.

² See pp. 101f.

from carrying of crops at harvest and for household needs. They fetch water and visit the farm to collect firewood and daily food supplies and they regularly collect snails, tortoises and wild herbs and roots as well as fallen palm-fruit to be made into edible oil or for soap and lamp oil. But they neither hoe up yam hills nor weed the farms. As compared with the eastern peoples, women devote considerably more time to marketing, frequently travelling considerable distances to dispose of small surpluses. Much of their remaining time is spent on crafts including basketry and potting, but most distinctive and general is the emphasis on domestic spinning and weaving. Among the eastern Yoruba (where the northern treadle loom is unknown) weaving is carried out entirely by women on a wide upright loom. A piece of cloth 20 inches by 80 inches in blue and white stripe selling for 1s. 6d. requires two or three full days work for the weaving, but as it is carried out intermittently, an ordinary housewife may only produce a dozen or half a dozen pieces in a year.

Metal working in both iron and brass was aboriginally well developed; the former once embraced the entire process, but today only smithing survives.¹ In a few centres such as Iseyin in Oyo division, hereditary lineages of smiths are numerous and their products are marketed over a considerable area. Native brass working is now of little direct economic importance, apart from the problem it presents to a government which has selected this material for its currency, thus creating opportunities for counterfeiting by the native casting process. Indirectly, however, both iron and brass working have given rise to a traditional attitude towards working in metals, especially in the larger centres of population, which has conduced to entry into western mechanics' jobs where opportunity has offered and to the development of new, if humble, crafts, such as the making of soldered utensils from tinned sheets. There are in consequence already very considerable numbers of 'European style' blacksmiths who make replacement parts for machines including especially lorries, such as nuts, bolts, brackets, hinges and so forth, as well as mechanics experienced in the maintenance and repair of motor vehicles, sewing machines and watches. Standards are by no means high, but training has revealed aptitudes which would probably respond further to an effective demand for good quality work. This applies also to other craftsmanship in the western provinces, such as cloth-making, tailoring, and leatherwork.²

The second distinctive feature of the western provinces concerns the

¹ Smithing and related crafts may be as strongly developed in the more advanced and densely populated areas of Onitsha and Owerri in the eastern provinces where they are dispersed among smaller settlements and are accordingly less conspicuous. This is suggested by the large number of mechanical workers in government and other services that come from these areas.

² Murray, K. C., and Hunt-Cooke, A., *Native Minor Industries in Abeokuta and Oyo Provinces*, 1938 (unpublished).

scale of social organisation. In the east, except at Onitsha on the Niger, which was itself organised as a chiefdom by a ruling group from the west, and in a few coastal centres, which long enjoyed contact with European traders and particular economic stimuli, the native political unit is, as has been seen, both small and amorphous. In the west on the contrary, a series of large and loosely connected chiefdoms has existed for centuries among the Yoruba, and in other areas Yoruba ruling groups have established themselves over formerly alien peoples, such as the Bini (Edo) peoples, who have largely assimilated Yoruba culture and social organisation.

The outstanding characteristic of these western chiefdoms, from the present point of view, has been the marked tendency for concentration of population in the political capitals, which have now become the main administrative centres, with the result that large towns and a very high proportion of 'urban' population are characteristic. Several of the Yoruba towns were already very large in the nineteenth century when British penetration of the interior began. With the greater security, political stability and economic opportunity brought by the British administration they have grown still larger. Whereas, according to the estimates of 1931, there was, apart from the sea ports, no town of over 25,000 inhabitants in the eastern provinces, in the western there were at least nine such interior towns of which five had more than 50,000 inhabitants. This town population is by no means wholly urban in its economic activities; a very large proportion has been and is mainly dependent on farming for its livelihood. Cultivators go out many miles from the towns to their farm plots and there is often a division of the household or a temporary exodus to the farms during the busiest seasons.¹

The concentration of population in large centres has in turn, in combination with cultural influences from the north, led to a higher degree of division of labour which is reflected not only in the greater development of specialised and often full time craft work referred to above, but also to specialisation in crops. Finally, there is a very much higher *per caput* internal trade in native products. This includes not only a multitude of goods being exchanged between town and country, but also very considerable trade between different regions such as the southward traffic in cotton grown in Oyo province. There is, further, a very considerable traffic of goods to and from the northern provinces, which is by no means confined to overseas trade but includes the export of kola and citrus to the north and the import of cattle for the meat trade.

A further differentiating element in the economy of a considerable part of the western forest belt is the establishment of a permanent crop. Cocoa has become the main cash crop over parts of the Colony, Abeokuta, Ijebu-Ode, Oyo and Ondo provinces. A permanent crop of this kind which

¹ See Perham, M., *Native Administration in Nigeria*, 1937, Chaps. XI and XII, for an account of social and political conditions of the Yoruba.

begins to yield a return only several years after the work of clearing and planting has been undertaken, but may then be expected to yield a crop for some ten to thirty years, involves economic factors which have little place in the estimates and decisions of the farmer who is growing only annual crops to meet his own household subsistence and an immediate cash return. Cocoa can be and is grown on a small scale by some farmers with little reliance on labour outside the household, so that risks of financial loss and indebtedness need not be great. Moreover, more or less normal yields of subsistence crops can be and usually are obtained from cocoa plots during the years before bearing. There remains, nevertheless, the need to devote labour, which might have been otherwise employed, to the cultivation and maintenance of land from which the return will be delayed and, in the circumstances of the world cocoa trade of recent years, at the same time uncertain. Periods of high cocoa prices, prices which have made it appear for the time by far the most lucrative cash crop to produce, have induced many among the more well-to-do to invest their savings in land and hired labour in anticipation of a considerable return. When uncertainty develops concerning the actual reward which will materialise, there is a tendency to skimp the costs of proper planting and maintenance in order to reduce the labour costs and to pay little heed to expert advice on the growing and preparation of the crop, while failure to secure the expected reward may lead to chronic indebtedness. These features have in the past been only too apparent in the cocoa belt of the western provinces.¹

(b) THE DEVELOPMENT OF INDIGENOUS RURAL PRODUCTION

No detailed and comprehensive studies of representative rural communities in the western provinces are available and any portrayal of the economic position must depend on the fragmentary, but fortunately well-spaced and mutually corroborative, data which are accessible.

The old subsistence basis of the rural economy is probably best represented by data from farming communities in more remote areas, where cocoa farming and trading have not been strongly developed, such as the Ekiti and Owo divisions in the north of Ondo province. Assessment studies in connection with taxation in 1928 and 1929² indicated that small farms with long fallow periods up to ten or even more years were the rule in these areas. In Owo, the yam plots, which accounted for nearly all the farm acreage, were often as small as half an acre, while in Ekiti the norm lay between one and two acres with exceptional farms as large as six acres. In addition to yams a farm would be likely to yield 100 lb. of beans and

¹ See p. 97.

² Mackenzie, J. A., *Owo Report 1928, Ekiti Report 1929* (unpublished). Data and estimates for these two areas agree closely. They have been generalised in this brief account.

enough peppers, okra, melon seeds and other vegetables as well as enough cotton to supply domestic requirements. Much larger outputs were possible without calling fully on the labour of a one-man household, for the Agricultural Department has estimated on the basis of timed work on its own experimental plots that the cultivation of one acre of yams requires only forty man-days of labour.¹ Larger yam outputs, which are produced by some households and provide a considerable surplus, make possible an export of yams to the large centres of population and especially to Ilorin in the north-west.² The approximate value and disposal of the net output of an acre farm unit in this case may be summarised as follows:

TABLE V
ESTIMATE OF ANNUAL NET OUTPUT OF SMALL YAM FARM,
OWO DIVISION, ONDO PROVINCE, 1928-30

Area of yam farm: 1 acre.

	<i>Net Output</i>	<i>Value</i>	<i>Home Consumption</i>		<i>Sold</i>	
			<i>Amount</i>	<i>Value</i>	<i>Amount</i>	<i>Value</i>
		£ s.		£ s.		£ s.
Yams ³	- 6,000 lb.	11 5	4,000 lb.	7 10	2,000 lb.	3 15
Maize	- 8,000 cobs	4 10	4,000 cobs	2 5	4,000 cobs	2 5
Beans, ⁴	- 3 baskets	8	3 baskets	8		
Cotton	- 40 lb.	6	40 lb.	6		
		£16 9			£10 9	£6 0

Further supplies both for household use and sale are obtained from wild and cultivated trees. There was at that time a gross profit of several shillings on a gallon tin of palm-oil made from purchased fruit costing 4s., for in 1929 in Ekiti oil was worth 9s. per 4-gallon tin. But the oil-palm was not as a rule very intensively exploited. In Ekiti little palm-oil was made for sale, and kernels, which were produced in larger quantities, were obtained from fallen fruit. Most households produced oil only to meet their own needs, which were estimated at only 2 gallons or so per head per year.

A later survey of Irun village,⁵ said still to be typical of Owo and Ekiti, indicates lower yields and a great fall in prices. The average size

¹ In estimates made by the Agricultural Department for the western provinces, yam yields ranged from 7,000-12,000 lb. per acre. A 1940 estimate for Oyo province is 9,000 lb., or approximately 4 tons per acre.

² The value of the yam crop in Ekiti and Owo at a time of relatively high local prices appears to have ranged, according to the season and the remoteness of the locality, from 9d. to 1s. 6d. for 10 yams, or from about £7 10s. to £15 per acre, excluding losses and replanting supplies.

³ Estimated at 3,000 yams = 9,000 lb., less $\frac{1}{3}$ for losses and replanting, at approximate mid-price between 9d. and 1s. 6d. for 10 yams (£7 10s. to £15).

⁴ Replaced to varying degrees by interplanted cassava.

⁵ Allison, *op. cit.*

of farm units was estimated at $1\frac{1}{2}$ acres, and there was a total cultivated area of 1.8 square miles in any one year. The average period of fallow was 7 years so that a total area of about only $14\frac{1}{2}$ square miles was under periodic farm cultivation. The population was approximately 4,000, of whom 885 were recorded as active adult tax-paying men. Estimating the yam yield at only 6,000 lb. per acre and the two crops of interplanted maize at 700 lb. each per acre, a typical farm output for the main crops would be 9,400 lb. Of this, allowing for wastage, about 6,000 lb. should be allocated to domestic consumption by a household of three or four adult units while some 1,500 lb. of yams would be needed for replanting. This would leave some 2,000 lb. of main crops then, yielding a cash return of only 20s. to 30s.

In parts of the Owo division immigrant Sobos, who are well known for their enterprise, had established oil producing camps with the consent of the local chiefs. One Sobo headman had twenty of his own people working for him with the option of selling all their oil to him at 3s. 6d. per tin and keeping the kernels, or of receiving a yearly wage of £7 plus the kernels. These workers could produce from 5–8 tins (4 gallons) per month during the main fruit season, and 3 per month during the rest of the year, bringing an annual return to the labourer of £8 15s. for oil and £6 5s. for kernels. These Sobo immigrants maintained their own food plots, growing cassava worth some 30s. The headman, who took the oil for sale to Sapele and other markets at 5s. to 6s. per tin, was making an annual gross profit of about £100.

Cocoa growing has been very largely in the hands of immigrants in these areas. Thus, in the backward village of Irun, referred to above, where cocoa had been introduced in 1920 and is now more important than oil-palm production, most of it is grown by non-residents from Ikare—the main cocoa market of the district—who have secured control of most of the actual and potential cocoa land, usually in return for nominal payments to the heads of the village wards.¹ Although cocoa growing was a dominant feature of the rural economy in only a few parts of these divisions, it was grown on a small scale in conjunction with farm crops in some districts. In Ekiti division small groves up to an acre or so were attached to many farms. Half an acre of cocoa trees in bearing was said to be yielding in 1929, when prices were high, a return of over £15.²

Planted kola trees have, however, been more generally prized in these divisions and proved a considerable source of income. A good bearing Gbanji kola tree was expected in Owo to yield from 500–1,000 nuts per year, which in 1928 could be sold to visiting Hausa traders for as much as 5s. per hundred, or taken north to markets at Ilorin, Kabba and else-

¹ *ibid.*

² On a conservative estimate of an average of 40 pods per tree and 500 trees per acre, a return of 1s. 3d. per tree or £31 5s. per acre.

where within reach where higher prices could be obtained.¹ A bearing tree could, therefore, reasonably be expected to yield a return of at least £1 per annum and considerably more in a well-spaced grove of healthy trees. The Gbanji kola bears six years after planting and continues to yield for another thirty years, so that a small grove of only a dozen or so bearing trees and some new planting could be expected to yield a very substantial annual cash return of from £10 to £15. But kola prices fell very considerably in later years. In Irun, where they were planted very extensively in the forest land surrounding the village, there was a glut in 1940 and the local price was only 2d. per 100. Such a grove was presumably then yielding only 10s. or so per annum.

Outside the main market centres such as Ikare, there were very few traders apart from men and women engaged in occasional petty trading in farm produce. Even in large villages there were only a handful of full time middlemen buying kernels, oil, cocoa or kola. There were only four or five in Owo and Ifon in 1928. Nearly all the retail selling of trade goods including native textiles was done by youthful strangers—hawkers from Ibadan, Oshogbo and other large towns. In Ekiti division local full time traders were thought to be making profits of from £15–£36 per annum.

Craft production was on the other hand considerable. Four-fifths of the adult women in Owo division were weavers producing for the most part a heavy blue cloth on the wide loom. Their profits were estimated at from 30s. to £2 each per annum in Owo, while in Ekiti net returns of £3 were thought to be common. The returns from other women's crafts were: spinning, about 30s.; potting, about £3; preparation of cooked food, about £1. A smaller proportion of men wove on the belt-loom, some of them producing the valuable cloth in which local silk is interwoven. Some of these were full time craftsmen and there were also a few full time iron-smiths, tailors, shoemakers, carpenters and sawyers in most larger settlements. Their cash incomes in Ekiti division were thought to range widely from about £10 to £40. A few men undertook paid labour from time to time obtaining 9d. per day on government work or as sawyers, and 3d. to 6d. per day, presumably with food, for farm work in neighbouring areas, such as Ilesha.

¹ The less valuable Abata variety was also grown and found its main market in Ilorin.

TABLE VI
ESTIMATED ANNUAL VALUE OF HOUSEHOLD OUTPUT FOR
SUBSISTENCE AND SALE, OWO, 1928-30

*Composition of household*¹: 1 man, 1 wife, 2 children.

	<i>Subsistence</i>			<i>Sold</i>		
	£	s.	d.	£	s.	d.
Farm Crops - - -	10	6	0	6	3	0
Palm Products:						
Oil, c. 6 gallons - -		9	0	—		
Kernels - - -	—			1	10	0
Kola Nuts or Cocoa - -	—			15	0	0
Minor crafts and labour:						
Women - - -	—			3	0	0
Men - - -	—			2	0	0
	£10	15	0	£27	13	0
Total - - -	£38 8 0					

The total, which is very high in relation to those for rural households in the other main regions of Nigeria, relates of course to a period before the catastrophic slump of export produce prices, which in turn effected a great reduction in the market prices of products for internal consumption. Within a few years the money values were probably more than halved although there does not appear to have been a great change in the amount or distribution of effort or in the quantities of the several goods produced.²

The distribution of occupation in these rural communities can be conveniently indicated by the census of the main occupations of able-bodied men in the single settlement of one small district, the village of Ilaje with an area of about 17 square miles in Ekiti:

¹ A household of this size is in fact becoming general, the former multiple household consisting of several related men is breaking down. In Irun in 1940, the small household farms were general, the common saying was, 'Nowadays every boy wants to make his own farm and now a man can rely for help only on his wives and the smaller children.'

² For the period to which it relates this estimate is conservative in one sense, since it omits a number of minor items including secondary, self-produced farm and bush products, such as peppers, native rope, etc., and the value of housing and other self-produced homestead equipment. On the other hand, it assumes a degree of well planned and persistent labour which was by no means generally attained.

TABLE VII
MAIN OCCUPATIONS OF MEN, ILAJE, EKITI DIVISION,
ONDO PROVINCE, 1929

	Nos.	<i>Approx. av. Value of Income per head in £</i>
Farmers - - -	160	26
Wage Labourers - -	92	12
Hunters - - -	3	24
N.A. Messengers - -	3	21
Carpenters - - -	2	30
Drummers - - -	2	12
Salaried Chiefs - -	2	72
Tailor - - -	1	36
Weaver - - -	1	23
Washerman - - -	1	13
Builder - - -	1	31
	268	

(c) ECONOMICS OF COCOA FARMING

The account so far given of the economy of these small and comparatively remote communities does not, however, reveal the most distinctive features of the rural economy in the western provinces to which reference was made earlier. Over a wide area in the heart of this part of Nigeria, in country traversed by the railway and a fairly close network of motorable roads, farming is already dominated by the existence of very large towns and by the development of cocoa production for export which reached a figure of over 75,000 tons in the period 1932-6 and nearly 100,000 tons in 1940-1.

The intensive cocoa producing belt lies mainly in the Ibadan and the Ife-Ilesha divisions of Oyo province, in Ijebu-Ode and Abeokuta provinces and in parts of the Colony. Nearly 60 per cent of the cocoa is grown in Oyo province, on either side of the railway, on a total grove area of about 400 square miles or about 6 per cent of the area of the Ibadan and Ife divisions which have an estimated total population of just over one million.¹

It has been suggested that in Oyo province as a whole one quarter of the farmers are now primarily dependent on cocoa production and grow practically no food crops at all once the trees are in full bearing.² About three-quarters of the land of Oyo province is unsuitable for cocoa production and therefore carries only food crops. But anyone who has suitable

¹ Ibadan division 4,765 square miles, population 989,000
 Ife-Ilesha division 1,558 " " " 133,000
 Totals 6,323 " " " 1,122,000

² Statements to the Department of Agriculture by two African members of the staff at Ibadan.

land available will plant cocoa owing to the growing demand for money and the belief that no food grower can make as much as the cocoa farmer. In the Ibadan division, where cocoa production is most highly concentrated, it is thought that three-quarters of the population are dependent on cocoa farming, if middlemen and those working for the European firms are included. Large quantities of yams and other foodstuffs come daily into Ibadan market from the country round Oyo, Iseyin and elsewhere to supply the resulting deficiencies in local food supplies. Similarly in south-western parts of Ondo province, where cocoa has been grown for twenty-five years, the farmers buy the bulk of their food and no longer trouble to grow it. Yams are imported in increasing quantities from the northern part of the province, such as the Ekiti and Owo divisions described above.¹

Size of Cocoa Farms

The size of cocoa farms in most areas of the western provinces varies from an acre or two worked by a man and his family to the plantation of as much as 50 acres employing a regular labour force and often in the hands of an absentee landlord.² The majority of the farms, are, however, still quite small. In the Ibadan and Ife-Ilesha divisions the typical size for a single farmer is said to be about 2 acres, while plantations worked with hired labour appear rarely to exceed 10 acres.³ Similar estimates are

¹ With this we may compare the cocoa production of the Gold Coast, where the Department of Agriculture estimate the acreage under cocoa between 1,250,000, and 1,500,000 acres, representing some 300,000 farms. A survey carried out by the department in 1929 covering 65·32 square miles in the south-eastern portion of Ashanti in the heart of the cocoa growing district, revealed that of the total acreage 7·25 per cent had been taken for cocoa production and that over 25 per cent of the population (as based on the 1921 census) fell into the category of cocoa farmers. See *Report of the Commission on the Marketing of West African Cocoa*, Cmd. 5845, (1938) (hereafter to be cited as the *Cocoa Commission Report*), para. 53, and Cardinall, A. W., *The Gold Coast*, 1931, p. 92.

² Two plantations of 128 and 103 acres were to be found in the Benin division, and in the Agege district; in the Colony one farm of over 50 acres was owned by a large family. The largest cocoa farm reported in the environs of Ibadan was 50 acres, but so large an acreage was very rare.

³ An unpublished report, kindly provided by the Director of Agriculture, indicated that, taking the number of members of the Co-operative Marketing Associations and the average weight of dry cocoa marketed per member, and reckoning 900 lb. of dry cocoa as the average yield per acre (which is somewhat high), the average acreage of cocoa farms in different areas would be: in Ondo province 1·5 acres, in the Ilesha area 1·8 acres, in Ife 2·5 acres, in Ife-tedo 1·7 acres. The data are:

<i>Co-operative Marketing Associations</i>		
	<i>No. of members</i>	<i>Average Weight of dry cocoa marketed per member</i>
Ondo Association	780	11·5 cwt.
Ilesha "	411	15·1 "
Ife "	37	21·5 "
Ife-tedo "	14	14·0 "

4.5 acres for Benin, and 2.3 acres for the neighbourhood of Agege. The latter being confirmed by the records of the co-operative societies.¹

Land Rights

The cultivation of a permanent crop, occupying a tract of land for as much as thirty years during which it may be of great economic value, has presented new issues lying outside the scope of the traditional system of native land rights.

The old Yoruba system of land rights was very similar to that described earlier for the Ibo.² Free land once appropriated and cleared by an individual belonged to his descendants in perpetuity.³ But these rights were collective, not individual. Control was exercised by the head of the lineage, or group of kinsfolk, concerned who apportioned plots according to need. Once allotted, a plot could not be taken from the holder so long as it had not been abandoned. On the other hand, occupiers, while they were secure in their usufruct, could not alienate any of their portion without the consent of the whole group.

Outsiders could be adopted into a kin group and secure land rights as members. They could also obtain the use of unwanted tracts by making annual gifts to those who held them; these gifts were regarded not as rent, but as tokens of the paramount rights of those granting the use of the land. Moreover, groups in possession of more land than they required could, and did, also make outright gifts of land to outside individuals or groups. Where there was an expansion into village land hitherto unfarmed and not already in the ownership of a particular kin group, the chief of the village or ward could supervise and control the first allotment of such land among the groups. The chiefs also received voluntary gifts from the heads of land-holding groups at harvest and other festivals.

Land had no market price and the question of sale did not arise. It was

The last three are older growing areas, probably with bigger farms and heavier yields. Taking 900 lb. dry cocoa as average yield per acre, the size of farms would be as stated above, but some cocoa would undoubtedly be sold through other channels and to this extent the figures are under-estimated. The Resident of Ondo province in an interview (Oct. 14th, 1941) said that many cocoa farms were only $\frac{1}{2}$ acre, though he added that farms of 50 to 60 acres worked by hired Ibo labour were to be found.

The Gold Coast Agricultural Department's survey of south-eastern Ashanti showed the average size of the cocoa farm there to be $2\frac{1}{2}$ acres, varying from fractions of an acre to 27 acres. Approximately 60 per cent were less than 1 acre and a further 20 per cent were less than 2 acres. The average yield was 5 cwt. per acre. Of the total of 1,249 persons who owned 2,184 plantations in the area included in the survey, 278 or 22.3 per cent were women. Cf. Cardinall, *op. cit.*, p. 93.

¹ The figures for Benin and Agege are taken from unpublished reports of agricultural officers for those divisions written in 1938.

² See above, p. 64f.

³ Ward Price, H. L., *Land Tenure in the Yoruba Provinces* (Lagos), 1933, para. 22.

held to be a gift of nature and it would have been considered morally wrong to take payment for land which had been obtained for nothing. On the other hand, it was a prime duty of a group of kinsmen to preserve their land for the use of their successors.

This traditional system has by no means entirely passed away, but the demand for land in certain areas, particularly in the vicinity of large towns and especially on soils suitable for growing cocoa, has greatly increased. The traditional system of acquisition and transfer has become increasingly inadequate to meet the demands of the commercial agriculture which has replaced subsistence farming in such areas. It has gradually come to be accepted that, where the recipient of land is likely to make a money profit from it, the grantors are entitled to receive a commensurate monetary reward. Thus, while objection in principle to money sales or renting of land for cultivating food crops has continued, cocoa land for which there is often much competition has, like building land in towns, come to be regarded as negotiable property. Forest land suitable for cocoa growing is either disposed of outright for an agreed money payment or leased on an annual rent, which may include some labour service, the owner reserving the right to evict a tenant who refuses to pay.

These practices can be represented as gifts and loans of land in accordance with native custom. But, since they have grown up piecemeal during the last thirty years without authoritative regulations concerning the conditions attaching to them, the rights of the parties to such transactions are uncertain and when disputes have arisen the native courts have decided cases individually as they thought best, not according to any fixed principles and with widely varying effect. *Frequent causes of dispute have been, on the one hand, the refusal of owners to compensate tenants whom they have evicted from land on which the tenants have planted cocoa, and on the other, attempts by tenants to assert complete ownership of leased land after the death of the original grantor.* Mr. Ward Price, while recognising that it was important in attempting to provide security for the few not to create any feeling of insecurity among the many, recommended, after a survey of land tenure in the Yoruba provinces in 1932, that in places where the traditional system had been considerably modified 'arrangements should be made for the registration of existing documents, for the recording of sales or transfers [and] for the issue of titles in certain cases. . . .'¹ He urged that the right to sell land should be openly recognised, provided the majority of the community had no objection, that proposed sales of 'family land' (i.e., land held by a group of inheriting kinsfolk) should be scrutinised to safeguard the groups against loss by an unauthorised act of one or more members, that no sale should take place unless there were a document and plan to support it, that certificates of title should be granted where necessary and that landlords should be

¹ *ibid.*, Appendix A, p. 103, paras 7 and 8.

able to register the conditions of tenancies at will. So far, however, no general system of registration of documents and transfers has been introduced outside the Colony, and the whole question of land tenure in the cocoa areas remains confused.

In the Protectorate, land may not theoretically be disposed of as personal property, but personal control can often be made practically effective. At Ibogun in southern Abeokuta province, outright sale and purchase between individuals is generally recognised. Transfers take place on oath in the presence of witnesses but no written documents are produced. The usual price per acre in recent years has been £5 in the Colony and £2 10s. plus two bottles of gin in Ibogun.¹

Large tracts of land can come under single control through extension of the rights of the headship of a land-holding kin group. Thus a few very big landlords are to be found round Ibadan, who may 'own' several square miles of land either as their share of the family property (lineage land) or as the head of the family or lineage. It is now common practice for such landowners in this area not to work this land themselves with hired labour, but to lend it in small parcels to a number of tenants, who will give some form of service in return, and remain on their holdings so long as friendly relationships are maintained with the landowner. At certain times of the year, including, for example, the local festivals, they will present him with gifts according to their means, either in the form of money or in kind—palm-oil, yams, bush meat and so on. One of the richest men in the area, who lives about a dozen miles from Ibadan, 'owns' some thirty villages, varying in size from considerable hamlets to a tiny group of dwellings.

Furthermore, transfers of land to individuals are commonly effected by paying a 'compensation' agreed upon between the parties to the transaction, whereby the land acquired is held to be granted as a gift. Thus, one African member of the Agricultural Department stated that he had obtained thirty acres of land in one compact block by 'gift' for £15 compensation paid over a period of three years. In this case he had gone to the head of the kin group owning the land, who was a friend of his father, and had 'begged' him for the plot. The head man had called together all the men of his lineage and with their consent had granted the land to the applicant. No documents were drawn up, but the fact that the two men were friends and the children of both knew of the transaction provided the surety that the applicant and his sons would not be dispossessed. In addition this would-be cocoa farmer, despite the prohibition of land alienation, had 'bought' fifteen further acres adjoining his block in small parcels at varying prices, amounting in all to a further £15. These plots were purchased

¹ According to two unpublished reports by the agricultural officers at the government farm, Agege, April 1938.

from other occupiers and in each case he had entered into written agreements ensuring his ownership.¹

Wage Labour

In the main cocoa-growing areas hired labour is employed on cocoa farms to a somewhat surprising extent; farms in which no such labour is employed being very much in the minority. Even where the labour of household members and close relatives only is called upon, a cash-payment is becoming the regular return for the services rendered, or the main crop is shared out among the working members after harvesting.²

Hired labour is very generally employed for clearing the bush, felling trees and preparing the ground for the establishment of a new cocoa farm, even if the annual cutlassing of undergrowth between the trees and the harvesting and fermenting of the cocoa is done later by the household.

In Ibadan all the hired farm labour appears to be local. There is a large number of men who prefer to work for wages rather than to farm themselves. Such men are employed on the 'Egba' system, being paid from 6d. to 8d. for clearing, hoeing or harvesting an area equivalent to 200 yam heaps ($\frac{1}{8}$ to $\frac{1}{6}$ of an acre). This is approximately a day's work though a good worker can hoe or reap up to 300 heaps and even occasionally 400 in the course of a day. The man will receive in addition a food allowance of yams, or 2d. per day in lieu of this. The owner provides the necessary hoes and cutlasses. About 8 cutlasses at 1s. and 2 axes at 9s. 6d. will be needed for the clearing work in establishing an acre of cocoa. Wages in the Ife area are higher, 1s. plus 4½d. for food being the daily wage reported in 1938.

In the Colony, on the other hand, where local farm labourers are reputed to be lazy and untrustworthy, the hired labourers are almost invariably foreign to the district, and are chiefly recruited from Yoruba of Shaki in northern Oyo and from Ilorin province. They do not settle as a rule in the district but are birds of passage, returning home after a year or two when they have earned sufficient money for the specific object, such as marriage payments or a corrugated iron roof, which they had in mind in seeking this form of employment. The rate of wages in 1938 was £7 10s.

¹ A tenant who does not buy (or obtain a grant in return for cash compensation) can be dispossessed if he does not 'submit', i.e. does not show respect towards and make the annual gifts and services to the owner. He can then be kept out by the *aga*, the palm-leaf sign tied across the entrance to the farm. African informants were emphatic that no man, not even a Christian, would defy this sanction.

² The agricultural officer at the government farm, Agege, has stated in his unpublished reports that, though there is probably much greater elasticity under this system in securing the necessary help for running the farm, when conditions are adverse a point will come when the game is not considered worth the candle and even family labour will break down if the price decline becomes too steep.

per annum (*c.* 6d. per day) at Agege. In Abeokuta province, the rates at the same dates varied considerably, being £9 in Iboḡun (*c.* 7d. per day) and £6 at Iḡbogila (*c.* 5d. per day), but at the lower rate the labourer would usually be fed by his employer or allowed to take foodstuffs from his farm. Casual labour was hired in the same districts in that year at from 9d. to 1s. per day.¹

Establishment Costs

The amount of labour involved in preparing the land for cocoa varies, of course, from farm to farm, but as land selected for cocoa planting is almost invariably heavily forested the preliminary item of cost of clearing the ground is considerable. It involves two operations. The cutlassing and clearing of the smaller growth over one acre are reckoned to take 20 average work days for an able-bodied man. The work involved in the felling and burning of the trees below about 9 feet in girth varies considerably, but an average of a further 28 man-days per acre was given as a fair estimate for the majority of the farms in the Ife area. The largest trees, whose felling would make heavy demands on the strength and energy of the labourers, are left standing, but fires are lit beneath them for several days in succession to kill them. They fall by themselves within the next two or three years when completely dry. Again, the labour required will vary greatly from farm to farm, but 24 man-days to the acre are reckoned as a reasonable average.

Clearing away the felled trees and lopping and burning the branches so that the land may be finally prepared for cocoa planting are estimated at another 20 man-days. Clearing thus involves in all about 92 man-days labour per acre.²

Since a farmer would have to clear land every few years for his food and other annual crops, and the cocoa plantation would yield annual crops for the first three or four years the clearing of a cocoa farm is not to be regarded as entirely additional to ordinary farm work. On the other hand, since forest, as opposed to secondary bush, is selected for clearing, the work is considerably greater than is normally required for new plots. The small-scale cocoa farming household may be able to do much of the clearing themselves but probably some hired labour will be needed if half an acre or more is to be cleared in any one year. The proportion of unpaid owner's labour to hired labour will vary widely for this and subsequent operations according to acreages, capital resources and the extent to which cocoa growing is combined with continued cultivation of subsistence crops which also demand the farmer's attention. The estimation of actual paid labour costs on cocoa farms is correspondingly difficult. It appears, as has been said, however, that nearly all cocoa growers employ some hired

¹ *ibid.*

² Information from the co-operative officer, Ife, 1938.

labour in nearly all operations and that the bulk of the work is done by hired labour on the larger farms.

Planting is usually done by the 'owner' or the occupier and his household. Sometimes the cocoa is sown directly on the newly cleared land, but in most cases the farmer will make yam heaps first before putting in the cocoa seeds. Planting is irregular, but trees are usually established at less than 8 feet apart; the average number to the acre is 500 to 600 trees. Interplanting with kola was widely practised in the past, particularly in the Colony, but this was found to lead inevitably to a decline in the cocoa yields from about the tenth year of bearing, and farmers now generally admit that the custom is unsatisfactory and are abandoning it. Inter-cultivation with annual food crops, however, is the universal custom by which the farmer maintains himself and his household during the period of waiting for the cocoa to yield. No particular cropping system is followed, though the first crops to be planted after clearing are nearly always yams with interplanted maize. Cassava and coco-yams are also commonly grown during the establishment period to provide lateral shade for the young trees, a necessity to which the Nigerian farmer is fully alive. The crops are given from two to six weedings a year, the young cocoa also benefiting from this attention to the food crops. But the seedling cocoa suffers much from drought and from the inroads of pests and many gaps have to be filled annually for the first five years before a complete stand is achieved.

If the farmer does not possess any cocoa trees already, the seed for planting is purchased either in the form of pods at 1d. each or as seedling plants at approximately 2s. 6d. per hundred, from the Agricultural Department. The former practice is more general, beans from the main crop being set first in nursery beds and transplanted to the farm in June, or, on light soils, the seed taken from the Easter crop and planted in June. Inter-cultivation with annual crops may cease before the fourth or fifth year when trees bear their first crop and work on the cocoa grove is required only two or three times a year, usually in March, June and September, when shoots developing on the main stem are pruned away, trees growing too closely together are thinned out, and the tangle of undergrowth between the rows is cut down.

Thus during the initial non-productive period of four years (during at least part of which, however, food crops are obtained) the annual labour need per acre may (on the basis of the perhaps generous estimates of the Ife co-operative officer) be summarised in man-days and money costs per acre as follows:

TABLE VIII

ESTIMATED ESTABLISHMENT COST OF COCOA FARM FOR
FIRST FOUR YEARS, IFE, WESTERN PROVINCES, 1938

Area: 1 acre.

<i>Initial Clearing</i>	<i>Man-days</i>		
Clearing small growth - -	-	20	
Felling small trees - -	-	28	
Burning large trees - -	-	24	
Clearing trees and branches -	-	20	
	—	92	£5 15 0
<i>Non-Productive Period (4 years)</i>			
<i>First Year:</i>			
Weeding (three times) - -	-	30	
<i>Second Year:</i>			
Weeding (three times) - -	-	30	
<i>Third Year:</i>			
Weeding, etc. (three times) -	-	60	
<i>Fourth Year:</i>			
Weeding, etc. - -	-	60	
	—	180	£11 5 0
<i>Total Establishment costs</i> - - -	-	272	£17 0 0

Reports from other parts of the Nigerian cocoa area include estimates for the total labour cost of establishment as low as 189 man-days while the estimates of money cost range anywhere between £9 and £20 15s.¹

The actual money cost for all these items will of course vary not only according to the local wage rates for hired labour (including value of food supplied), which as will be seen vary from 8d. to as much as 1s. 4½d. per day, but also with the amount of 'free' labour contributed by the farmer and his own household. In addition to these overhead costs themselves, there will be additions for interest on and amortisation of the outlay to be taken into account. Actually such additional items do not appear to be considered or calculated by the growers when estimating the profitability of cocoa growing.

Maintenance and Harvesting

Throughout the bearing period, an annual weeding and trimming is needed which was estimated at Ife to require twenty man-days costing £1 7s. 6d.

The annual costs of harvesting will of course vary with the yield. The cocoa trees reach maximum bearing in the tenth or twelfth year after

¹In the Gold Coast costings made by the Department of Agriculture in 1929 indicated, according to Cardinall, *op. cit.*, a labour cost per acre for establishment of only 170 days. At the prevailing wage rate of 1s. per day the money cost would be £8 10s.

planting and a decline sets in fairly rapidly after the fifteenth year as a general rule, though a crop may still be harvested up to twenty-five or even thirty-five years.¹

Estimates of yields per acre for a number of representative areas were obtained in 1938 by the Agricultural Department. Remarkable agreement on a yield of 4–6 cwt. per acre was found among individual estimates obtained in Abeokuta and Agege. In Ibadan the average of somewhat discrepant data was similar. But the Ife Cocoa Farmers' Association claimed 10 cwt. per acre as a reasonable maximum yield in full bearing. The aggregate yield per acre throughout the bearing period may not much exceed 80 cwt. and in many cases will be appreciably less.²

On a good farm three pickings can be made in the main crop season, which falls between October and February, and one to three in the off-season, between March and September. But two to three pickings a year are more generally the rule.³

Hired labour is again very commonly employed to gather the crop and tend the beans during the process of fermentation and drying which is sometimes done on the field but more usually at a place near the house. According to the Ife Cocoa Farmers' Association about 38 man-days per acre are required for one picking and preparation of cocoa for market. Assuming a total annual production equivalent to three main pickings in a year, the total labour involved would be 114 man-days at a hired cost in the Ife area of about £7. At the lower wage rates found in some other areas the cost would be only about half of this.⁴ The Agricultural Department, however, calculated over a period of four years that the labour cost per acre is as follows:

¹ In view of the hazards of poor crops, disease, dying-back and defects in cultivation, harvests over thirty-one years are an optimistic assumption. Mean annual maintenance costs for a shorter period would be higher and other costs in poor years would be lower.

² The Ife Association estimated a total yield of about 120 cwt. In Abeokuta on the other hand it was reported that a large number of trees died after ten to twelve years' bearing. Information given elsewhere by local growers as to length of life was generally vague.

³ The off or mid-season crop is very variable and on plantations of over 15 years of age the trees not infrequently fail to yield at all at this time. The normal distribution is given as four-fifths for the main and one-fifth for the off-season crop. Information based on the unpublished reports by agricultural officers at Agege and Abeokuta, 1938.

⁴ The rates, including the customary food allowances, reported from cocoa areas in 1938 were: Ibadan, 8d.; Abeokuta, 9d.; Ibogun (Abeokuta), 9d. and 1s.; Ife, 1s. 1½d. to 1s. 4½d.

TABLE IX

AVERAGE ANNUAL LABOUR COST OF MAINTENANCE AND PREPARATION ON COCOA FARM IN BEARING, MOORPLANTATION, IBADAN. (DEPARTMENT OF AGRICULTURE), 1941

				<i>Man-days per acre</i>	
Pruning -	-	-	-	4	
Weeding	-	-	-	30	
				—	34
Harvesting	-	-	-	32	
Breaking pods	-	-	-	47	
Burying shells	-	-	-	3	
Fermenting and drying	-	-	-	4	
				—	86
Total man-days per acre per year					120

It was thought, however, that the African farmer would be unlikely to devote more than 80 man-days of labour in all per acre in the course of a year. The labour probably devoted to pruning and weeding, for instance, was estimated at only 10 man-days against the 34 included above.¹

When dry, the cocoa beans are either transported by headload to the nearest store for sale, or are handed over to the middleman. In Ife, where the common practice is direct sale to the store, the majority of the farms are situated within a 7 to 10 mile radius of the nearest store, and the average cost of transport is 1s. 6d. per cwt. by headload. Bags for packing the beans are loaned by the store at 2d. each or 1s. 4d. for the 7 bags required for 10 cwt.

A series of estimates of costs of production of a ton of cocoa, based on a plantation life varying from 20 to 35 years, were produced in 1938 both by African growers and various agricultural officers. In considering these estimates, which are summarised in an appendix at the end of this chapter, it has to be borne in mind that the African farmers generally have very little idea of their production costs. For instance, two men questioned in the Abeokuta division stated that cocoa is a reasonable proposition if it can be sold for £30 per ton, but others in the same district maintained that £50 was the minimum price at which cocoa was profitable to the grower. When a farmer employs labour, he rarely knows what proportion is spent on the cocoa and what on his food crops. If the farm is worked entirely by household labour, the head of the household has even less idea of his labour costs, or of the proportion of time devoted to different parts of the farm. The cocoa farmer is, moreover, as a rule quite unused to accounting over a considerable period and usually feels that cocoa growing is profitable if it pays for all the labour employed and leaves him with a few pounds in hand.

¹ Cardinal, *op. cit.*, gives for the Gold Coast in 1929:

Annual labour cost of maintenance: 24 man-days per acre at 1s. per day, or £1 4s. Taking 4 acres as the average size of the farm and a yield of 5 cwt. per acre he gives the total cost of village production at £8 5s. 6d. per ton.

During the decade before the war the average annual Lagos prices ranged from over £28 to as little as £12 10s. per ton and in five of the nine years 1931-9 were below £16.¹ At the outbreak of war a government controlled minimum Lagos price of £14 10s. per ton for Grade II cocoa was established, but this has since been reduced. Even where the cocoa farmer has contributed a considerable part of the labour himself, the return on cocoa farming during these years of low prices must have been very small and where cocoa has been produced with hired labour, there must frequently have been a considerable, if sometimes a concealed, loss.

While the data are too fragmentary and too scattered both in space and in time to make possible any comprehensive judgments, some tentative generalisations in terms of man-days of labour may be made. The prime costs of maintaining the plantations, harvesting and preparing the crop appear to lie generally between 80 and 115 man-days per acre, or, at 5 acres to the ton, 400-575 man-days per ton of cocoa. As for the supplementary costs, which have to be covered during the life of the plantation if cocoa growing is to be remunerative in the long run, they comprise, apart from purchases of land, seedlings and equipment, the cost of clearing and planting the farm and of maintaining the trees until they begin to bear. The total is between 180-270 man-days per acre. At what appears to be the typical range of total yield per acre during the whole bearing period of 15 to 20 years, viz. 80 to 120 cwt., the labour cost for establishment will lie between 30 and 68 man-days per ton. The overhead labour costs (excluding transport, etc.) are therefore small relative to the prime costs and the total labour costs will lie between 430 and 643 man-days. In the peak year 1927 when the local growers price was about £50 per ton,² the reward

¹ Annual average wholesale price per ton of Grade II Nigerian cocoa at Lagos since 1931. (Compiled from the *Trade Reports*, Nigeria, and the *Reports on the Agricultural Department*, Nigeria.)

	£	s.	d.		£	s.	d.
1931	17	12	2	1936	22	12	11
1932	15	17	2	1937	28	1	7
1933	13	15	7	1938	14	6	4
1934	14	3	9	1939	12	10	2
1935	16	3	11				

² i.e. Lagos price less £3 for transport and £3 for middleman's profits. (Previous to 1930 the *Trade Report* quoted prices for old and new cocoa. In 1927 the price of old cocoa was £54 2s. 11d., and the price of new £56 14s. 7d.; the latter has been used in this calculation.) For middleman's profits see pp. 98-9. Concerning the former the agricultural officer at the government farm at Moor Plantation, Ibadan, asserts that, with the exception of Benin and Ondo, where it is higher, the difference between the price paid to the farmer and the official Lagos price should not exceed £3 per ton. The railways give a freight rate of 2d. per ton mile for cocoa, but the bulk of it now goes by lorry from Ibadan and Ilesha to Lagos, and some 40 per cent from Abeokuta, and the lorries can take it for a freight rate which beats the railways. With these low rates the estimate of the £3 differential in price, even including the brokerage charges, is probably adequate.

per man-day of labour may be estimated at from 2s. 4d. to 1s. 6½d. On the other hand, in 1937, the best year since the depression, when the local growers' price would on the same basis have been about £22 per ton (Lagos price £28), the return per man-day would have been from 1s. to 8d.; while at the worst of the depression in 1933, when the grower probably received less than £9, the return would have lain between 5d. and 3d. per man-day. In all this the cost of land and equipment and entrepreneurial rewards have been ignored.

High prices in the 'twenties had led to a great expansion of cocoa planting and disappointment has been great when cocoa growers have harvested their crops and found that the Lagos price for cocoa had fallen to £15 or even £13 per ton. For the grower who works his own farm with only supplementary hired labour, the reward, even at low prices, has probably been somewhat greater than he would have received if he had devoted his labour to a corresponding production of food crops or oil-palm products for sale. But for the owner-manager of a large cocoa plantation, who has depended on hired labour and has made payments for land, these prices have involved a loss. Their effect must be to discourage the development of these large units and to restrict cocoa growing to small-scale production auxiliary to subsistence farming.

Loans to cocoa farmers by native cocoa traders usually take the form of agreements to pay the interest in cocoa, e.g., one cwt. of cocoa per £1 borrowed. With recent low prices and the need to make wage payments in advance, chronic indebtedness has reached serious proportions. Its concomitants are considered in some detail elsewhere.¹

Trading in Cocoa

A very substantial part of the income from cocoa production has been received by those engaged in the marketing and transport of the cocoa crop. But this income, which is reflected in the difference between local and Lagos prices of as much as £3 per ton, is spread over a very large number of traders. Between the grower and the exporting firms there is a hierarchy of middlemen most of whom operate on a system of cash advances and commissions. Local and generally part time traders, known as pan or basket-buyers, purchase cocoa in small lots direct from the farmers judging quantities by eye. They work on advances of a few pounds made by a 'scaleman', who on larger advances from an African wholesaler buys up as much as he can of the cocoa in his district. Both these classes of traders seek to obtain a margin above the market price which has been given them, while the wholesaler fixes his prices in relation to that ruling in a major market centre such as Ibadan. The wholesaler himself is frequently tied to one or other of the exporting firms by advances, but he also frequently owns a lorry and secures a further profit on the transport of the cocoa he buys.

¹ See Chap. VII, and the chapter on Extra-Territorial Enterprises in Volume II,

The petty local pan-buyers, about half of whom are women, have each their regular clientele of about eight growers, many of whom are relatives. They are also petty money-lenders giving loans against cocoa crops to their customers. They frequently buy the cocoa as picked and themselves undertake the work of cleaning, drying and transporting it from the farm; this has to be allowed for in the gross profit of 3s. to 4s. per cwt. which they are reputed to make. The major part of their profit has indeed been said to come not from cocoa purchases as such but from the interest on the loans. Among the scalemen there has been intense competition and it is doubtful if their profits were greater than 2s. per cwt. Finally, the African wholesalers have received a commission which has varied from 10s. to as much as £2 per ton in good years and in some cases a salary of £1 5s. per month from the exporting firms. They offer prices to the scalemen based on the Lagos price adjusted in accordance with the cost of transport, grading and bagging of the cocoa to be bought.

Unfortunately, no data are available concerning the numbers and representative incomes of the various classes of cocoa trader. They have an interest in the continuance of a free internal market in cocoa and, as described elsewhere, have objected to the war-time system of price controls, to co-operative development and to other measures designed to improve the quality and efficiency of cocoa production and marketing.¹

Standards of Living in the Cocoa Areas

No close study of the standards of living of cocoa farmers and traders has been made but the following unpublished data were obtained from recent (1941) enquiries into incomes and expenditures in the Ife area. Farmers' cash incomes ranged up to £36 per annum while those of full time traders and workers in new crafts, such as mechanics and carpenters ranged from about £24 to as much as £180 in exceptional cases. The most striking feature of the expenditure was the extent to which outlays on food and clothing increased with higher incomes.

¹ For details of cocoa marketing see the *Cocoa Commission Report*, the *Report of a Committee appointed in Nigeria to examine Recommendations made by the Commission on the Marketing of West African Cocoa* (hereafter to be cited as the *Nigerian Cocoa Committee Report*), Nigerian Sessional Paper No. 20 of 1939, and the chapter on Extra-Territorial Enterprises in Volume II.

TABLE X

ESTIMATED DISTRIBUTION OF EXPENDITURE FOR FARMERS,
TRADERS AND INDUSTRIAL WORKERS, IFE, 1941

FARMERS

Cash Income	Food	Cloth- ing	Educa- tion	Medical	Personal Services, Social and Religious Expenses	Tax	Total
£8	£2	£1	£2	5s.	15s.	10s.	£6 10s.
£18	£6	£2	£5	10s.	£2	10s.	£16 0s.
£36	£12	£6	£10	10s.	£3 10s.	£1	£33 0s.

TRADERS AND WORKERS IN NEW INDUSTRIES

£24	£12	£5	£2	£1	£2 5s.	10s.	£22 15s.
£48	£21	£9	£5	£2	£5 5s.	10s.	£42 15s.
£90	£36	£12	£15	£5	£13 0s.	£1	£82 0s.
£180	£60	£24	£24	£12	£30 0s.	£2	£152 0s.

(rent of from £1 15s. to £9 per ann. *not* included.)

The authors of a survey of native crafts in the larger centres of Abeokuta and Oyo provinces, which serve the main cocoa area, were able to obtain only a very rough idea of the incomes of craftsmen but believed that 'only the very best and best-known workers were able to make a substantial living; there are very few indeed earning more than £50 per annum. The average profits of the ordinary craftsman cannot be more than £20 per annum and this [by] extremely hard work, and there are large numbers only able to eke out a bare existence with profits smaller than a labourer's wage.'¹ They also found that the 'modern' trades, from those of motor mechanics and bicycle repairers to tailors, were hopelessly overcrowded and subject to a cut-throat competition which lowered the standards of both workmanship and income, and led to abuses of the apprenticeship system.

It has been stated already that cocoa can be satisfactorily grown only on certain of the heavier and more fertile soils and that in many such areas the local production of foodstuffs has been to a very large extent abandoned. There is, therefore, a very large inflow of foodstuffs into the cocoa area from adjacent districts, which have in turn concentrated on the production of surplus food crops. In the Oyo division, which is probably typical, yams are the main cash crop and are assembled in large quantities at Oyo and Fiditi for transport by lorry into the cocoa areas to the south. A recent report by the agricultural officer indicates that the farms are mostly small and worked by single households. Of a cultivated area of 3-4 acres, about a third was devoted to yams, the rest being planted in cassava, maize and cotton. From an acre of yams, a yield of about 4 tons was

¹ Murray and Hunt-Cooke, *op. cit.*

secured of which only 1 ton was available after household needs had been met. This could be sold, in recent years, for £2, which was the chief single item of household money income, being supplemented by small returns from cotton, surplus maize and part time weaving by both men and women. No data are available for framing a comprehensive budget, but it is not likely that total household money incomes often exceeded £4 or £5. The levels of consumption, as indicated by expenditure on clothing and household equipment, are markedly lower than those of Ibadan division where cocoa is grown.

A general picture of the economy of the more developed parts of the south-western provinces is afforded by a recent (1940) attempt to estimate the total agricultural production and consumption of Abeokuta province.¹ The total population of the province was estimated as 550,000. The area devoted to annual farm crops was estimated, by remainder, as nearly 1½ million acres, of which about 350,000 acres were in cultivation in any one year and produced staple food crops as follows:

Yams, 50,000–60,000 tons; maize, 60,000 tons; cassava, 600,000–650,000 tons; beans, 5,000 tons.

There were considerable net exports from the province of yams, maize and cassava, while beans, cow-peas and pumpkins (*Citrullis Sp.*) were imported in large quantities. Thus, about 300 tons of beans and cow-peas a month came into Abeokuta by rail from the north.

Samples of food consumption obtained in various parts of the province were said to give the following representative amounts *per caput*:

TABLE XI
ESTIMATED *PER CAPUT* FOOD CONSUMPTION, ABEOKUTA PROVINCE, 1940

	<i>Per Annum</i>	<i>Per Day</i>
Yams - - -	2 cwt.	} 1.9 lb.
Gari (cassava flour)	4 cwt. ²	
Maize - - -	2 cwt.	0.6 lb.
Beans - - -	0.5 cwt.	0.3 lb.
Cow-peas - - -	0.5 cwt.	0.3 lb.

These amounts, which agree very well with the independent estimates of production, export and import, reveal a food standard no higher than that enjoyed in the less developed eastern provinces.

5. FUTURE DEVELOPMENT

Although subsistence production of food supplies and many other household goods is still dominant over most of the forest belt of southern

¹ Poynter, H. G., 'Production and Consumption of Native Foodstuffs in Abeokuta Province', *Farm and Forest*, v. 2: 68-71, 1941.

² equivalent to 1 ton of cassava 'root'.

Nigeria, production for marketing both locally and abroad is well established and is growing. The production of oil-palm products for export is important in all but the most remote or the most specialised areas. In some of the latter, the areas of intensive cocoa growing in particular, production for an external market has reduced output of food staples far below the level of local needs. In the belt of dense population between the lower Niger and the Cross river, local food production is also inadequate and the seasonal export of labour, which has already reached considerable dimensions, is matched by a substantial, if inadequate, import of supplies. Finally, the ports and the large inland market centres require very considerable supplies of foodstuffs and other native products, and in response to these demands there has developed elsewhere, especially in interior areas less well suited to the production or marketing of export products, such as northern parts of Oyo, Benin and Ogoja provinces, a substantial production of staple foods, which is marketed in the deficit areas.

No attempt is being made in this survey of the existing rural economies of Nigeria to assess the opportunities and problems which will arise in connection with industrial development. It should, however, be pointed out in this connection that the release of labour from the production of food and primary export products is intimately related to all plans for industrialisation. Thus, underlying all special measures of development, whether for increasing outputs and values of export produce or for establishing local manufactures to meet internal needs, there is the over-riding necessity, if energy is to be released for the provision of other goods and services, to increase the productivity and efficiency of farming. This is particularly important where the traditions of craftsmanship are high, the aptitude for machine operation has already been tested and the opportunities for transferring labour to light industries would appear particularly promising. Although we have no precise data on the intensity and efficiency of labour on farms, there can be no doubt that, with the existing techniques and organisation, the use of a very large proportion of the labour of the population is required to secure only a small surplus above subsistence needs. The methods also impose very severe limits on the density of rural settlement if levels of output and soil fertility are to be maintained. Furthermore, the produce of the farms is ill-balanced in that the outputs of vegetable protein and of stock feed are inadequate and the starchy foods form an excessive proportion of the resulting diet. More economical use of both land and labour are obviously to be desired. While the fallow land that is growing up in bush is by no means entirely unproductive, a system that requires the retention and recurrent clearing of five or more times the area actually under cultivation at any given time, is extremely wasteful of both land and labour. On the other hand, the congested areas of the south-east have amply demonstrated that, without new techniques, shortening the period of fallow leads to a

disastrous decline in yields as well as to exhaustion and accelerated erosion of the soil.

(a) GREEN MANURING, COPPICING AND COMPOSTING

For a number of years the Nigerian Agricultural Department experimented with systems of green manuring to eliminate the need for long periods of bush fallow. But, apart from disappointments in technical results, it proved difficult to secure any large-scale adoption of such a system. Communities with adequate land could not be persuaded of the advantages of growing an additional crop which yielded no direct return and abandoning the traditional bush fallowing with which their collection of oil-palm and other bush products as well as their traditional land system was integrated. On the other hand, those who were short of land were often unable or unwilling to make the initial sacrifices in food crops and unrewarded labour for a long-term plan intended to restore fertility and higher yields to their overworked land. Greater success has recently been reported for the practice of coppicing a small rosaceous tree, *Acioa Barteri*, which is more effective on the poor sandy soils where fertilisers are so badly needed. This tree coppices readily and has a very deep tap-root whereby presumably it brings up plant nutrients from the subsoil and thus enriches the surface. Its virtues have been discovered by some Ibo groups who have adopted the practice of planting it to replace natural bush on exhausted land. It is allowed to grow for a few years when the branches are cut down and burnt in preparation for a yam or cassava crop. After one or two harvests the trees are allowed to grow up and coppice again for several years when the cycle can be repeated. Owing to its deep rooting system this tree has also great value in checking gullying in badly eroded country and the Agricultural Department has recently been encouraging the regular planting of *Acioa Barteri* in the soil-degraded areas of Onitsha and Owerri provinces, and is devising more efficient means of employing it.¹ The possibilities of extending to the main farm plots the practice of composting brushwood and leaves, which is already applied by some Ibo to their compound gardens, are also being investigated. There is considerable promise that simple and effective methods which could be fitted into existing farming practice may be devised. There is, therefore, a prospect of some economy of resources and some alleviation of the effects of congestion by these means. But this does not go to the root of the problem of raising the productivity of farm labour. For this the application of animal or mechanical power in farming is needed.

¹ Urquhart, D. H., 'Land Use in Southern Nigeria', *Nigerian Forester*, v. 1, No. 2: 51-54, 1940. Sampson, H. G., and Crowther, E. M., *The Leverhulme Trust West Africa Commission 1938-9, Technical Reports*, 1943, (hereafter to be cited as the *Leverhulme Commission Technical Reports*), p. 24, and information from the Director of Land Planning and former Conservator of Forests, Nigeria.

(b) MIXED FARMING

If a permanent rotational system of farming, such as has existed for centuries in many parts of southern Asia, where the natural vegetation was also tropical forest, were established in southern Nigeria, not only would the laborious effort of recurrent bush clearing be eliminated, but stumps could be cleared from the land and ploughs and harrows used to reduce the labour of cultivation. To achieve this it would be necessary to break a vicious circle; for the maintenance of bush fallow has provided ideal conditions for fly-borne diseases which have excluded the introduction of draft animals which could provide both the manure and the power required for a permanent rotational system at a higher level of efficiency.¹

The dwarf cattle of the south have been found too small and intractable for draft purposes, while the Zebu breeds of the north can at present be maintained only under very elaborate protective conditions quite incompatible with farm use. But the technical success of the introduction of plough farming in the northern economy, which is discussed later,² has stimulated further efforts to secure a breed of cattle that can be used under southern conditions. The Gold Coast 'Nilami' breed of dwarf cattle which has a high degree of immunity to trypanosomiasis has been found adequate for draft purposes and experiments at Ilorin by the Agricultural Department suggest that it may be possible by introducing Gold Coast bulls to improve the qualities of the Nigerian dwarf cattle to a level adequate for their use as farm animals. If, along with this, a system of fodder production which could be dovetailed into the southern farming system can be successfully devised, the way will be open for the general establishment of mixed farming in the south.

Following the breeding experiments at Ilorin, an experimental mixed farming unit and training school has been established at Oyo. Preliminary results indicate that a farm of 10 acres under a rotation of yams, maize, beans and other vegetables together with a citrus grove can be worked by a man and wife with the aid of occasional paid labour. Two working bulls and one working cow supply the necessary manure to maintain fertility and provide animal power for the use of a plough and cultivator. It is estimated that at recent prices an annual profit of £25 or more could be secured after feeding the household, paying tax and setting aside sums to

¹ It may technically be possible to develop motor tractor farming in southern Nigeria and it has been suggested that Diesel tractor engines could be run on palm-oil. But the stumping involved besides being costly may lead to accelerated erosion. There are at present no data on the probable costs involved, but it would appear that, without a great reduction in the prices of tractor equipment and fuel, this would prove considerably more costly in both capital outlay and maintenance than the use of cattle.

² See pp. 170f.

replace equipment.¹ From such a profit the repayment of loans for the initial supply of stock and equipment would have to be met, presumably in addition to other living and maintenance expenses, but even so it points to a level of household income very substantially higher than that to which the hand cultivator has generally been able to aspire.

Short of the widespread establishment of plough cultivation, there is an opportunity for investigating means whereby the numbers of cattle and goats might be rapidly increased. This would not only provide a more adequate supply of animal protein in the southern diet, but could supply the manure which would make it possible to keep a considerable part of the land in farms under prolonged cultivation. In some areas already, especially among the more efficient Ibo farmers, considerable use is made of compound sweepings including goat dung to maintain small plots in the vicinity of the homestead in continuous cultivation. In view of the rapidity with which organic products are broken down and become available as plant food under damp tropical conditions, and the remarkable results that are achieved from quite small manurial dressings, it would seem probable that if sufficiently simple means of providing fodder, of penning and composting could be devised, a number of livestock well within the scope of household maintenance would be sufficient to manure a typical farm acreage sufficiently to reduce the bush fallow period very considerably. By increasing crop yields per acre and reducing the area required for the household farm, this would achieve a great economy in the use of land. It would not only go far to mitigate the pressure on land in congested districts, but also is likely to be of growing importance over much wider areas, where the density of population is rising and may in the near future exceed the three to four hundred per square mile, which appears to be the maximum consistent with the maintenance of equilibrium in soil fertility and outputs under a system of bush fallowing. Since there are communities which already appreciate the virtues of animal fertilisers, and maintain compound plots under continuous cultivation with their aid, social conditions favourable to this development are likely to exist.

Nor must the intrinsic importance of increasing the supply of animal protein by these means be forgotten. Recent investigations of the toxic effects of certain native foods in Nigeria by Dr. A. Clark have suggested not only that a number of staple foods including cassava and unripe millet produced prussic acid poisoning, but that this is to be attributed not merely to the cyanogenic contents of these foods but also to general deficiency of the diet in organic sulphur compounds which would neutralise them. Moreover, he found evidence for the view that the high incidence of

¹ From information supplied to Dr. M. Fortes by the agricultural officer in charge of the mixed farming school, Oyo. The project is being financed equally by the native authority and the Nigerian Government and is training suitable young men in all aspects of mixed farming management.

pellagra in association with a gari (cassava flour) diet was due not only to the lack of the anti-pellagric vitamin factor (in the B 2 group) but to a lack of organic sulphur. Animal protein, which is rich in cystine, would be the obvious means to use for raising the sulphur intake and since the cultural and physical obstacles to changes in the staple foods are considerable, these findings add an important ground for increasing the animal protein supply by all possible means.¹

If either plough cultivation or rotational hand cultivation with live-stock reared for meat and manure can be successfully introduced in sample communities, means of hire purchase through native authorities for the provision of stock and equipment should be as practicable among the peoples of the south as they are proving in the introduction of mixed farming in the north. It will, however, be necessary in the south as in the north, in order to ensure tangible and permanent results and overcome setbacks, to give the fullest facilities for demonstration, supervision and advice. Moreover, supervision will need to cover wider social developments including adaptations of systems of land tenure and the need for new markets as well as technical questions of farm management. Already in many communities the head of the household farm has rights to the continuous use of farmland of the kind illustrated earlier among the Yakur and the Ozuiem and, while increased security for personal rights in land may be needed in some areas, it does not appear likely that traditional systems of land tenure would prove a serious obstacle to the development of permanent rotational farming, as long as this social and technical supervision is adequately provided in the communities to which the new methods are successively introduced. But, in view of the crucial importance of success in the early stages and of securing the fullest knowledge of any likely sources of social maladjustment, in what would after all be an agricultural revolution, there would appear to be a case for the appointment of field advisers with training and experience in the social and economic problems of rural communities to collaborate with the agricultural officers.

(c) OIL-PALM DEVELOPMENT

Apart from the improvement of agriculture, one very important field of development whereby wealth could be increased in the southern economy is that of oil-palm products. If the quality, market prices and levels of production of palm-oil and kernels could be permanently raised, a very substantial increase in the purchasing power of the majority of

¹ Clark, A., 'Report on the effects of certain poisons contained in food-plants of West Africa upon the health of the native races,' *Journal of Tropical Medicine and Hygiene*, v. 39: 269-276; 285-295, 1936. Dr. Clark also found that other poisons including acid sapotoxins in coco-yams and dioscorin from a yam used as an adulterant of cassava flour were serious sources of poisoning while albuminuria was associated with unbalanced coco-yam and cassava diets.

households and a consequent stimulus to other forms of economic activity could be secured. Moreover, if substantial economies in the labour expended per unit of the products could be secured, energy would be freed for other tasks of development. Obviously, independent action in Nigeria will not suffice to improve world prices of palm products.¹ On the other hand, the defects of the present methods of production and the technical opportunities for their improvement are well known and are described in another chapter where the marketing problems are analysed in considerable detail.²

The technical developments immediately open include, first, the replacement of scattered growth of wild palms by planted groves of selected palms at a higher density per acre and yielding more abundantly a higher quality fruit, and second, the general use of mechanical methods for expressing oil and cracking nuts and the production of the more valuable soft instead of hard oils. The slow process of research needed to secure true-breeding strains of the most suitable oil-palms began over twenty years ago and although there have been some criticisms on the ground that the government has spent only very limited funds for this purpose, substantial progress has been made.³ But the achievement in securing the establishment of groves of planted palms, owned by individuals or groups, to replace the random and scattered growths of lanky palms in the bush, and in the introduction of mechanical methods of extraction has so far been very disappointing, particularly in view of the fact that such improvements were often viewed as one of the justifications for resisting the introduction of commercial plantation methods. A most valuable and balanced review of the existing position and future possibilities has been provided in Mr. A. F. B. Bridges' unpublished reports of oil-palm surveys in both the Eastern and Western Provinces.⁴ It is clear that the difficulties in the past have been considerable. The uncertain and often falling price of palm products, and commercial difficulties of securing separate marketing and a price premium for higher grade oils, have greatly limited the incentive to establish planted groves of superior palms or to risk capital in improved methods of extraction. Planted groves of selected palms, by their concentration of trees bearing earlier and heavier yields of more accessible fruits greatly economise labour in collecting and assembling. At the same time, they economise land and free it from the double burden of yielding both crops and palm-fruits to the detriment of both which is only too common in the more closely farmed areas. This is the more necessary since the

¹ On the problems arising from the conditions of the world market see Chapter VI and the chapter on Extra-Territorial Enterprises in Volume II.

² See pp. 222f.

³ Cf. Hancock, W. K., *Survey of British Commonwealth Affairs*, Vth p. 241, 1942.

⁴ *op. cit.*

Nigerian oil-palm belt is one of very poor soils as compared, for example, with competing areas in Sumatra, in which fertilisers are also used to enhance yields. But in congested areas where the need to economise land is greatest, the sacrifice of land and labour, unremunerated at the outset, is hardest to make; while, where land has remained comparatively abundant, the inertia of the existing system and a variety of communal claims on oil-palm resources, which would operate unfairly against the planter, has clearly been considerable. The development of planting has in consequence so far been substantial only in the restricted areas such as parts of Benin province where there were few wild palms.¹

On the other hand, it cannot be claimed that the concentrated effort required to get such a development well into its stride has yet been made. The inducements provided under the Cultivated Palms Ordinances of 1935 were inadequate and the scheme envisaged has been a dead letter. The clear demonstration to an adequate number of communities of the social and technical feasibility and the long-term economic advantages, the provision of an adequate initial inducement and the continued supervision necessary to consolidate gains and meet unforeseen difficulties require more than the slender resources so far allocated to them. Although the number of planted groves in the decade before the outbreak of war rose from practically nothing to nearly 10,000 acres, the latter figure is negligible in relation to an annual oil-palm production of more than a quarter million tons. The further fact that so many of the existing owners of planted groves are comparatively prosperous traders, school teachers and technicians with exceptional resources and opportunities for gaining experience, emphasises the point that even the foundations for a widespread development of 'peasant plantations' for the production of oil-palm products lie almost entirely in the future. On the other hand, as is pointed out elsewhere, the comparative inefficiency of the Nigerian methods of production and the low quality of most of the output are placing Nigerian palm-oil at an increasing disadvantage in the world market.² The need for improvement is, therefore, likely to become more urgent as time goes on, and it is at least encouraging to find that Mr. Bridges' findings do not suggest that the obstacles to improvement would prove formidable so long as an adequate financial inducement was given for embarking on the needed readjustments in the control and use of land and for the initial labour effort required. Indeed, such widespread tendencies as that towards greater individualism in the control of trees, and the formation of *ad hoc* groups for economic co-operation suggests that social conditions are on the whole favourable. A combination of an adequate premium for high quality oil with more efficient means of publicity, instruction and supervision, such as Mr. Bridges' reports suggest, would appear likely so far as

¹ See for further information Chapter VI.

² See Chapter VI, p. 227.

social factors are concerned to elicit in general a favourable response. On this point he writes: 'Generally speaking there is no doubt that native ideas on land or palm tenure are undergoing a change and that except where pressure of population is extreme most difficulties would in time be surmounted by the people themselves if they became really convinced of the benefit of the plantation system.'¹

The second aspect of development in palm-oil production, the general use of mechanical methods of extraction is, as the reports also show, likely to be dependent in considerable measure on the establishment of planted groves. For the supply of palm-fruits must, if it is to reward the capital cost even of a hand press, be sufficiently large and steady to permit fairly continuous use, and this requires a local concentration of productive palms which is at present only rarely available. The conditions affecting the use and profitability of hand presses are discussed elsewhere; there is some hope that with a premium for high grade oil (the production of which presses facilitate) the return can be made sufficiently remunerative to cover the investment and labour costs involved.² As with the development of planted groves, however, the inherently favourable conditions in the rural economy will need the support both of adequate price levels and systematic supervision during the period of expansion.

(d) REDISTRIBUTION OF POPULATION

In addition to means which are desirable to raise productivity and standards of living among the rural population in general, special measures are urgently needed in congested areas even to arrest further deterioration. As the technical and economic problems of raising the volume of subsistence production and the value of exchange products in these communities are far from solution, the question of relocation of population requires serious investigation. It has been generally assumed that attempts at controlled redistribution of population would encounter serious difficulties not least of which would be the resistance of the people themselves. This resistance, it has been anticipated, would be at its maximum in these congested areas, since the peoples in question are for the most part Ibo whose intense attachment to their lands and suspicion of interference are notorious. It is, however, important to understand the nature of Ibo attitudes to land and the circumstances in which their suspicions and secretiveness are aroused. The most widespread and prominent of Ibo cults is that of Ala, the female earth spirit, and this cult does symbolise and reinforce the attachment of Ibo groups of all sizes, from the sub-lineage to the tribe, to the lands from which they derive their sustenance.³ But the cult of Ala has not, as is so often assumed, been associated in

¹ *op. cit.*

² For a detailed discussion of these questions see Chapter VI.

³ Cf. Meek, *op. cit.*, pp. 24 ff.

the past with an obstinate immobility based on exclusive attachment to particular tracts of land. On the contrary, at the time when British administration began to be effectively extended over the eastern provinces, the Ibo were expanding territorially in many directions and often at the expense of other peoples. The genealogies and mythology of such Ibo peoples as the Ezza and Ikwe show the processes of fission and migration whereby sub-groups were continually migrating into new territory. The Aro Chuku people were also planting colonies over a wide area by a more specialised social process.

Nor is there any marked reluctance on the part of individual Ibo to migrate seasonally or for indefinite periods to secure remunerative work. Already, as has been seen, a considerable proportion of the younger adult population of Umueke migrate seasonally as wage labourers. With improved agricultural techniques in the absence of the development of new local opportunities for economic activity, this tendency to export labour might be expected to increase. Furthermore, Ibo artisans such as iron workers, tailors, carpenters, are found living semi-permanently among other peoples all over the eastern provinces, while Ibo are very prominent among the southern clerks and traders resident in northern Nigeria.

The difficulty in attempting to redistribute population in closer conformity with available resources would, therefore, appear to be not the overcoming of complete and obstinate opposition to migration but the discovery of means whereby existing attitudes may be harnessed to the needs of relocation. Two factors appear to be paramount, first, the degree of divorce of migrants from their parent community, and secondly, the creation in advance of confidence in the good intentions underlying plans for relocation and in the benefits to be derived from it. On the first point, it must be recalled that the scattered character of settlement, whereby homesteads are dispersed over the land, must not be taken as implying that the homesteads are autonomous social units readily removable piecemeal to new areas as economic opportunity suggests. The sense of community which exists between the homesteads of a 'village', between the 'villages' of a group and often between the local groups of a sub-tribe is very strong. Inter-marriage, trade exchanges, common ceremonials and mythology and periodic meetings of elders in a single council link together a multitude of hamlets over a very wide area.¹

To attempt to divorce a few village groups here and there from their wider social connections is to invite resistance and refusal to recognise or accept the prospect of economic advantage. Relocation in the congested area of southern Nigeria would appear to require, first, the minimum territorial disturbance compatible with real economic advantage, second,

¹ See Meek, *op. cit.*, for a description of the political aspects of the wide ramification of social connections. The social structure of the Ibibio, among whom there are also congested areas, is very similar to that of the Ibo.

the provision of opportunities for the combined movement of fairly large groups and third, the maintenance of continuity between migrant communities and their parent groups. These three principles might appear to be so incompatible as to stultify any plans, but it is likely that they could be combined in practice. They suggest that, while attempts to induce groups within a very congested area to migrate lock, stock and barrel to a remote district, however inviting its natural resources, would be likely to fail, the reduction of congestion could be achieved by inducing migration in the *first place of communities* on the periphery who would move no great distance into new land, and would by their departure leave room for the territorial expansion of the congested communities.¹ The leasing and pledging of land, which is already very considerable, is a piecemeal expression of this process and further suggests its practicability. The need for relocation can, in other words, be tackled with more likelihood of success by setting in motion a general 'creep' of population into unsettled areas. By making the latter more accessible to the surrounding population through road and bridge building and marketing developments, it should be possible to provide by stages for territorial expansion of the more congested groups. Such a process, despite its indirectness, would be more likely to be successful under present conditions than attempts to induce fractional groups to migrate to remote areas, and country fifty miles from 'home' is very remote, where their neighbours would be strangers and all effective links with the wider community, of which they had formed part, were broken. At the same time it is possible that in connection with future economic developments in the south-east, such as the establishment of new suburban areas of intensive food production in the vicinity of industrial centres and the establishment of new settlements in connection with a more comprehensive use of forest resources, there will be need for relocation of rural population on other grounds. Advantage could be taken of such opportunities by making them fully available to suitable immigrants from congested areas by means of judicious publicity, aided transport and initial provision of housing equipment.

¹ Although both ethnic and demographic conditions as well as the particular needs and inducements are different, there are precedents to be studied in the Anchau resettlement scheme in Zaria province, which successfully redistributed population in improved village sites over a considerable area in connection with measures to combat sleeping sickness: see Nash, T. A. M., 'The Anchau Settlement Scheme', *Farm and Forest*, v. 2: 76-82, 1941.

APPENDIX
SAMPLE ESTIMATES OF COCOA PRODUCTION

TABLE XII

SAMPLE ESTIMATE OF MONEY COSTS ON COCOA FARM
BEARING FOR 31 YEARS, IFE COCOA FARMERS ASSOCIA-
TION, 1938

Area: 1 acre

	<i>£</i>	<i>s.</i>	<i>d.</i>	<i>£</i>	<i>s.</i>	<i>d.</i>
Tools - - - - -	-	-	-		17	0
Establishment (first 4 years) - - - -	16	13	0			
Maintenance (31 years) - - - - -	42	12	6			
					59	5 6
Annual labour costs of harvest and preparation at full production - - - - -	6	13	6			
Transport - - - - -	2	8	6			
	£9 2 0					
Total labour and transport costs for the equi- valent of 12 years at full bearing (£9 2s. x 12)	-	-	-		109	4 0
					£169 6 6	

Assuming, as they did, a yield of 10 cwt. per acre in full bearing, the aggregate yield of cocoa would be 120 cwt. at an average cost of approximately 28s. per cwt. or £28 per ton.

TABLE XIII

SAMPLE ESTIMATE OF LABOUR AND MONEY COSTS OF COCOA
FARM, IBADAN DIVISION, 1938¹*Estimate per acre*

Wage rate of hired labour 8d. per day

<i>Establishment</i>	<i>Man- Days</i>	<i>Money Cost</i>		
		£	s.	d.
Clearing - - - - -	82	2	15	0
Maintenance during 4 non-productive years (no labour charged, offset against value of food crops obtained)	—	—	—	—
<i>Maintenance during production</i>				
6 years at 30 man-days per ann. -	180	6	0	0
12 „ „ 15 „ „ „ -	180	6	0	0
<i>Total for establishment and maintenance over 22 years</i> - - - - -	442		14	15 0
<i>Harvesting and Transport</i>				
Part cost (excluding fermenting and drying) for an aggregate crop of 58 cwt. ² - - - - -	459		15	6 0
<i>Total labour costs</i> ³ - - - - -	901		30	1 0
<i>Estimated value of crop</i> of 58 cwt. in 20 years at 15s. per cwt. -			£43	10 0

¹ Information supplied by the agricultural officer.² Annual crop estimates to rise from $\frac{1}{2}$ cwt. in 5th year to a maximum of 6 cwt. in the 11th to 13th years to decline to 2 cwt. in 20th year.³ Note that no tools and no labour for the non-productive period or for drying and fermenting are allowed for.

TABLE XIV
SAMPLE ESTIMATE OF LABOUR AND MONEY COSTS OF COCOA
FARM, ABEOKUTA AREA, 1938¹

<i>Estimate per acre</i>					<i>Money Cost at</i>		
					<i>gd. per Man-day</i>		
<i>Establishment</i>				<i>Man-Days</i>	£	s.	d.
Clearing	-	-	-	42	1	11	6
				6		4	6
				48			1 16 0
<i>Maintenance</i>							
Non-productive period:							
1st year inter-cultivation ²	-			60	2	5	0
2nd " "	-			46½	1	15	0
3rd " weeding (3 times)	-			32	1	4	0
4th " " "	-			32	1	4	0
5th " " (2 ")	-			21½		16	0
				192			7 4 0
<i>Productive period from 6th year for, say, 20 years:</i>							
Annual weeding, etc., 12 man-days per annum	-			240	9	0	0
Harvesting and preparation, ³ 21½ man-days per annum	-			426	16	0	0
				666		25	0 0
Grand total	-			906		£34	0 0

In this area it was estimated that there would normally be an additional annual cost of £1 to repay capital and interest on loans for wage payments, while cocoa land had a capital value of c. £5 per acre. The cost of producing 1 cwt. of cocoa may be estimated approximately as follows:

					s.	d.
Labour cost ⁴	-	-	-	-	5	6
Loan costs	-	-	-	-	4	6
Land cost	-	-	-	-	2	6
Total cost per cwt.	-	-	-	-	12	6

¹ Information supplied by the agricultural officer.

² Food crops to the annual value of £3 in these two years are estimated as being received but have *not* been offset against labour costs.

³ No labour costs for transport of crops appeared to be included and the very low figure suggests that fermentation may not be included.

⁴ A yield of 4 to 5 cwt. per acre was assumed.

TABLE XV

SAMPLE ESTIMATE OF CURRENT ANNUAL LABOUR AND MONEY COSTS OF TWO COCOA FARMS IN BEARING, AFRICAN OWNERS, IBOGUN, ABEOKUTA, 1938¹

IBOGUN I.	Estimate per acre	Man-Days	Cost
<i>Maintenance:</i>			£ s. d.
3 clearings per annum at 7s. 6d. each per acre		c. 23	1 2 6
<i>Expenses per harvesting:</i>			
Picking pods, 3 man-days	- - - 3s.		
Breaking pods, 2 man-days	- - - 2s.		
Transport from farm to village for drying, 1 man-day	- - - 1s.		
Drying, 3 man-days	- - - 3s.		
Total: 9 man-days	- - - 9s.		
Three harvestings per annum at 9s. each	27s.	27	1 7 0
<i>Equipment:</i> Baskets, mats and cutlasses, etc.	-		5 3
<i>Transport</i> and handling charges in marketing at Ifo	-		1 6
Total maintenance, harvesting and marketing costs per annum ²	- - - - -	50	£2 16 3
 IBOGUN II.	<i>Estimate per acre:</i>	<i>Man-Days</i>	<i>Cost</i>
<i>Maintenance:</i>			£ s. d.
3 clearings per annum, each of 8 man-days at 9d.		24	18 0
<i>Expenses per harvest:</i>			
Picking: 4 man-days at 9d.	- - - 3s.		
Breaking: 2 man-days at 9d.	- - - 1s. 6d.		
Transport to village: 2 man-days at 9d.	- - - 1s. 6d.		
Drying: 7 man-days at 9d.	- - - 5s. 3d.		
15 man-days	- - - 11s. 3d.		
Four harvestings per annum at 11s. 3d. each	-	60	2 5 0
Equipment for drying and harvesting	- -		9 0
Transport and marketing expenses	- - -		3 0
Total costs ³ per annum	- - -	84	£3 15 0

¹ The first was a well-tended farm of 2 acres, with trees 10-12 years of age, interplanted with kola and oil-palm; the second was only 1 acre in extent, the age of the trees was 12-15 years, and about 500 trees were established; no other crops were grown, but again the farm was well cultivated.

² Total estimated receipts per acre were:

3 cwt. cocoa at 16s. per cwt.	- - -	£2 8 0
1 tin oil at 2s. 3d. per tin	- - -	0 2 3
Kola nuts	- - -	0 7 6

Total receipts - - - - - £2 17 9
i.e. an excess of only 1s. 6d. per acre over these costs.

³ Estimated receipt per annum was:

5 cwt. cocoa at 16s. per cwt. - - - - £4 0 0
i.e. an excess of income over these costs of 5s. per acre.

TABLE XVI

SAMPLE ESTIMATE OF MONEY COST OF, AND CASH RECEIPTS
FROM COCOA FARM CLEARED IN 1933, BENIN, 1937

BENIN FARM I.

Area: 4.35 acres.

(It should be noted that the owner and his wife worked on the farm throughout and the value of their labour has *not* been included. In 1936 and 1937 the labour was provided entirely by the owner and his wife.)

				Costs for total area			Receipts to date			
				£	s.	d.	£ s. d.			
Clearing	} 3 years	-	-	12	7	6				
Seed										
Weeding										
Clearing 4th year (1936)		-	-	2	0	0	1 bag cocoa			
" 5th "		-	-	2	0	0	(c. 1.7 cwt.)	3	3	0
Harvesting and preparing in 1936							4 bags cocoa			
and 1937		-	-	-	-	-	(c. 6.7 cwt.)	4	0	0
Total for 4.35 acres		-	-	16	7	6	(c. 8.4 cwt.)	7	3	0
" per acre		-	-	3	15	0				

TABLE XVII

SAMPLE ESTIMATE OF MONEY COST AND COCOA
YIELDS OF COCOA FARM CLEARED IN 1929, BENIN, 1937

BENIN FARM II.

Area: 5 acres.

		COSTS		YIELD	
		per 5 acres	average per acre	average per acre	Total for 5 acres
	£ s.	£ s.	£ s.		
1929 Clearing	-				
Smaller growth	- 5 0				
Tree felling	- 3 10				
Tree burning	- 1 10				
Total	- -	10 0	2 0		
Seeds and planting	-	1 10	6		
1930 Weeding, etc.	-	2 10	10		
1931 " "	-	2 0	8	0.1 bag	0.5 bag
1932 Weeding and pre- paration of cocoa		2 0	8	0.4 "	2 bags
1933 " "		2 5	9	1.0 "	5 "
1934 " "		2 10	10	1.6 "	8 "
1935 " "		3 0	12	2.6 "	13 "
1936 " "		3 10	14	3.6 "	18 "
1937 " "		4 10	18	4.8 "	24 "
		£33 15	£6 15	14.1 bags or c. 23.5 cwt.	70.5 bags or 5 tons 17.5 cwt.

AGEGE FARM I.
Area: 10 acres.

¹ From data compiled by a group of four farmers. A cost of £8 for seedlings presumably for the 10 acres, i.e. 16s. per acre, was also reported. As this item was not recorded for the other cases it is omitted from the tables. No allowance appears to have been made for value of food crops. Labour costs in 1937-38 included the removal of banana shade plants and planting a permanent crop.

This was a large unit worked by a man of means employing a permanent labour force of 3-5 men as well as casual labour. Several of the cost items appear extravagant. Note the inclusion of costs of purchase of land and of the value of labour supplied by farmer and his household. The very high estimated cost, even allowing for these, suggests both the difficulty of obtaining reliable data and the considerable variations in costs.

² From data compiled by a group of four farmers. A cost of £8 for seedlings presumably for the 10 acres, i.e. 16s. per acre, was also reported. As this item was not recorded for the other cases it is omitted from the tables. No allowance appears to have been made for value of food crops. Labour costs in 1937-38 included the removal of banana shade plants and planting a permanent crop. This was a large unit worked by a man of means employing a permanent labour force of 3-5 men as well as casual labour. Several of the cost items appear extravagant. Note the inclusion of costs of purchase of land and of the value of labour supplied by farmer and his household. The very high estimated cost, even allowing for these, suggests both the difficulty of obtaining reliable data and the considerable variations in costs.

TABLE XIX

SAMPLE ESTIMATE OF MONEY COST OF ESTABLISHING
A COCOA FARM DURING FIRST FIVE YEARS, AGEGE, 1938

AGEGE FARM II.

Area: 0.5 acres.

				<i>Labour costs per acre</i>		
				£	s.	d.
Clearing and planting	-	-	-	4	9	0
Maintenance—1933-34	-	-	-	2	18	8
1934-35	-	-	-	2	3	4
1935-36	-	-	-	1	2	0
1936-37	-	-	-	1	7	0
1937-38	-	-	-	4	6	0
				£16	6	0

Chapter III

THE NORTH: THE HAUSA

I. INTRODUCTION

One basic cultural pattern dominates the social life and economy of the great majority of the peoples of Nigeria north of the Niger-Benue line. Its essential elements are Hausa speech, Moslem religion, and a blend of Hausa customs with the fundamentals of Moslem law and practice. It includes an ancient monarchical state organisation, with a developed system of taxation: this generally takes the form of an emirate headed by a ruling dynasty of Fulani origin. There is a comparatively elaborate and often highly skilled agricultural technique whereby the rural communities provide both their own food and the surplus which maintains the urban aristocracy, merchants and artisans and the petty officials of the districts into which the emirate is divided for the purpose of administration. All these features are by no means universally found in combination. There are many areas, and notably the large Kanuri-speaking province of Bornu, which are not Hausa in speech or in which Hausa and other linguistic groups live in mixed communities; adherence to Moslem law is nominal or non-existent in some areas; agricultural techniques vary according to resources. There has been frequent incorporation of formerly autonomous pagan populations into the framework of the Moslem emirates, mainly through the raiding of pagan communities for slaves, whose descendants have been ultimately assimilated by the Hausa population, though some independent islands of non-Moslems have survived into the period of British conquest and control. Nevertheless, the society and the economy of 'Hausaland' and of the kingdom of Bornu to the east have an underlying uniformity. Here the local rural community, despite its self-sufficiency in food and in most other commodities, has long formed part of a wider administrative and economic framework. Tax-collectors and traders have for centuries been transporting the rural surpluses to the political capitals and the tradition of surplus production for distant centres of consumption, through trading, taxation and levies, is deeply implanted. At the same time, the continual ebb and flow of population and the large-scale transplantation of slaves to promote intensive cultivation in the vicinity of the capitals such as Kano, Zaria and Sokoto has emphasised the wider political and territorial framework of society at the expense of those ties of kinship and locality which bind the members of autonomous primitive communities.

No comprehensive and detailed sociological study of a single northern

Nigerian emirate is yet available.¹ The people who regard themselves as Hausa, that is people whose first tongue is Hausa and conform to the Hausa-Fulani version of Moslem social custom, amount to considerably less than half of the eleven million people of the northern provinces of Nigeria, and they are mainly concentrated in Sokoto, Katsina, Kano, Zaria and a number of smaller emirates in the more northern part of the country, with which we are particularly concerned in this chapter. Conquest, migration, slave raiding, proselytising and partial assimilation have resulted in a most variegated cultural pattern, but a generally constant feature, outside the few autonomous pagan areas that remain, is the organisation of villages or clusters of hamlets in the territorial district which is the political unit of the emirate.

For the present discussion detailed consideration of political structure is not indispensable. It should, however, be pointed out that the indigenous system of tax-collection and the remission of funds to a political capital to sustain the ruler's court and his functionaries has involved a diversion of part of the income of every villager, which had no general counterpart in southern Nigeria until the introduction of taxation under British authority. Moreover, the maintenance of the native system of emirate taxation, although in greatly modified form and subject to control by the British central administration, has resulted in a level of taxation in relation to income which is as a rule very much higher than that resulting from the more recently introduced taxes in the south.²

When British suzerainty was established in northern Nigeria much of the structure of the northern emirates was deliberately retained by Lord Lugard so that the emir, his council and high officials and district representatives have become the officials of the native administration. Similarly, most of the rights in land, which had been previously acquired by ruling families and lesser members of the aristocracy, continued to be recognised. Although they commonly affect but a small proportion of the total territory, the existence of landed estates, formerly worked by slaves and now farmed by métayage and wage labour, introduce an element in the northern economy very different in scale and character from the dominant system of the autonomous household. Such estates have provided opportunities for experiment with new crops and farming methods on a large scale. Thus, the technique of mixed farming discussed later has been applied by some emirs to their personal estates.

¹ A recently published work by Dr. S. F. Nadel on the Nupe (*Black Byzantium*, 1942) includes a study of the social structure of the emirate of Bida in which most of the Nupe live. But the economy differs from that of the more northern and dominantly Hausa areas. It is discussed below in the Chapter on the Middle Belt. Much of the account of the politico-economic organisation of Bida to which reference is made there may be applicable to the emirates in general, but only a series of long overdue studies of other emirates can establish this.

² See the Chapter on Public Finance in Volume II.

Apart from private estates, although land is theoretically the property of the state, the rights of usufruct and patrilineal inheritance, but not of alienation whether by gift or sale, are recognised. The district head or chief is responsible for the allocation of vacant land, and is bound to assign a portion without charge to any member of the local community who seeks to farm. This right is also extended in practice to immigrants from other areas who are acceptable to the local community, and control of the use of land is often delegated to the village heads.¹

This simple system of free usufruct under the supervision of the village and district heads tends to break down, however, when there is scarcity of land and little opportunity or inducement to migrate to adjacent and less densely settled districts. The district head was formerly both alien to the district he controlled, and frequently an absentee. After the Fulani conquest, the office, which offered opportunities for lucrative tax-farming, was often bestowed on followers or sold by the new rulers. While the district head was always in theory only a functionary with no property rights as such in the district he supervised, he was often able, where the demand exceeded the resources, to exact large presents for assigning farmland to new claimants and for recognising succession by descendants. Thus, a practice of disguised purchase has grown up in some heavily farmed areas, and regular transfer values for land have become established. Unfortunately, there are at present no published data adequate for the study of the conditions of tenure and transfer of land in such areas.² In the past the fiefholders frequently lived in the capitals and delegated the collection of taxes to retainers in the villages. Although the extortion and other irregularities which were rampant have been largely eliminated under British administration, the present district heads, often of Fulani origin, have by no means always been fully assimilated into the life of their districts.

Over the greater part of the north, among the tens of thousands of communities ranging in size from small hamlets to large walled-towns, and in spite of many minor cultural differences, direct production for household subsistence remains the basic element in the economy. The north, however, differs from the south in two vital respects; first, in its sub-arid climate and open vegetation; secondly, in that it has been influenced in its techniques and tastes by its close contacts with the Sahara and the Sudan. Until the period of European intrusion from the coast, the new influences in the north had moved mostly from north to south.

¹ Local disputes including rights of succession are settled by the village head in consultation with the heads of the patrilineal lineages concerned. Social control in general is vested in the head of each lineage or 'extended family' who is responsible for the right conduct of members of the village community.

² See, however, Nadel, *op. cit.*, for conditions in the emirate of Bida.

While shifting cultivation or the periodic resting of farmland by bush-fallowing is generally employed in the north, as in the south, to maintain crop yields and restore soil fertility, the northern cycle is generally more economical, for there is greater knowledge and use of fertilisers and rotations, which make it possible to maintain prepared farmland longer in cultivation. Since the conditions of cultivation of the food staples of the northern farming system (sorghum, or guinea-corn, and a variety of smaller millets) differ considerably from those of root cultivation there are also technical differences in farming practice.

2. HOUSEHOLD PRODUCTION

(a) THE HOUSEHOLD UNIT

The northern grain-farming economy is like that of the south, predominantly organised within the framework of the family household, but it is in general even more self-contained. A man and one or two of his married sons, or his married brothers, may live and farm together, but a household unit containing more than two adult men and three adult women appears to be exceptional. Although no adequate body of comparative data exists, the size of the production unit appears to vary only within very narrow limits among different ethnic groups.¹

Co-operation by neighbouring farming households in joint working parties (*gaya*) for the preparing, planting and even harvesting of their several plots is a general practice, but it appears to be declining in importance. Farmers nowadays will often agree only to send their sons to the *gaya*. Small farmers have less need of this co-operative work now, while the larger farmers, who in pre-British times had used slave labour, find it insufficient and unreliable; they prefer to obtain regular retainers or to hire labour. But despite this trend towards greater individualism, those who have taken up mixed farming are reported to have shown a remarkable spirit of co-operation.²

The internal economic structure of the Moslem Hausa household differs markedly both from that of the unassimilated pagan peoples of the north and from the varying patterns of domestic organisation found in southern Nigeria. Outstanding features are the very limited obligations of wives to contribute labour or resources directly to household production and the

¹ Of ninety households studied in the Kazaure emirate in northern Kano province in 1934, over one-third contained only one adult man. The number of men per household ranged from one to five but the average was two (F. W. Parsons, *Memorandum on Ground-nuts and other sources of income in Kazaure Emirate, 1934*, unpublished). This is not true of the pagan groups largely unaffected by Moslem Hausa culture, the economic organisation of which is exemplified in the discussion below of the economy of the plateau.

² Giles, L. C., *The Hausa Villages and Co-operation, 1937* (unpublished).

far-reaching degree to which is carried the principle that a wife has full personal control and responsibility for her own capital resources and equipment. From this it follows that she is not legally obliged to contribute to the maintenance of the household. In rural areas of eastern Zaria, for example, a wife's domestic obligations are strictly confined to cooking for the household and to the provision of water, firewood and the equipment necessary for these purposes.¹ She has no obligation to assist her husband on his farm; in fact, she does so very rarely and then only for payment in kind. She may produce crops of her own, sometimes including considerable amounts of grain, for which she often hires labour; but all these crops are her personal property. While minor produce such as vegetables or fruits may, as a matter of convenience, be contributed without accounting to the common pool, and the wife's grain may provide the normal means of tiding over the 'hungry months', her contributions are regarded as loans. In many areas, the greater part of the small stock, especially goats and fowls, is the property of women and can be used by a husband only on a basis of full payment.

Similarly the proceeds of a woman's spinning, weaving, petty trade or any other remunerative activities accrue to her personally. That a mother is under a socially recognised obligation to contribute to the marriage payment, of which the greater part is paid by the father, when a son takes a wife, is no exception to this principle. The mother meets a part of the needs of her own child. It is for the same reason that she provides most if not all of the household equipment which her daughter takes with her on leaving home to marry.

The prestige of Moslem custom is so great that, even in rural areas, there is a tendency for the economic contribution of wives to household incomes to be still further restricted among the well-to-do by the seclusion of wives. This means that they are largely confined to the preparation of food and to spinning and weaving on their own account. Firewood and water supplies have then to be purchased by the household head and the minor contributions to household food supplies which might come from a wife's vegetable plot are also forgone.

(b) FARMING METHODS AND OUTPUTS

The farm units are in general considerably greater in area than in southern Nigeria and the area of land under cultivation by one household at any one time appears normally to range from five to eight acres. The staple crops of guinea-corn and millet² normally occupy from two-thirds

¹ *ibid.*

² The term 'millet' is sometimes used to cover all the inferior tropical grains. It is, however, convenient to distinguish guinea-corn (*sorghum vulgare*) from the numerous 'small millets' (various genera of the Paniceae and Chlorideae) and the term 'millet' is accordingly restricted to these.

to three-quarters of this area although, as in the south, subsidiary crops may be interplanted with them.¹ In Tarke, a hamlet in a rather arid and infertile sandy area in Sokoto province, however, the average area cultivated per household was as high as nine acres, although no significant surplus for exchange was secured.² This may be usual for light soils. On the other hand, the household farm acreages are much lower round large urban centres where land is scarce, where local crop prices are higher and where there are various and often lucrative non-agricultural means of securing supplementary income. The typical farm area in the immediate vicinity of Kano is said to be about three acres. But these low acreages do not as a rule provide the household with sufficient agricultural produce for its own needs. There are indications that the area of the household farm and the acreage of food crops grown on it have tended to decline in recent years with the development of production for exchange. Thus, for the Dan Zomo district in Gumel emirate reports at successive dates indicate that the total cultivated acreage declined considerably in the fifteen years between 1917 and 1932 concurrently with the general adoption of ground-nut cultivation for the market. In 1917 it was reported that there was an average cultivation of eight acres of grain per male farmer.³

¹ In the Dan Zomo district of Gumel emirate in northern Kano province in 1932, where there was no evidence of shortage of farming land, the average cultivated farm area was approximately five acres of which a little over four acres was planted in guinea-corn and/or millet. Much of this was interplanted with beans and cow-peas. Most of the remaining area was devoted to the cultivation of ground-nuts for sale. This appears to be characteristic of areas of moderate fertility and normal economic development in both ground-nut and cotton-growing areas, see Backhouse, M. V., *Reassessment Report on the Dan Zomo District of Gumel Emirate* (Lagos), 1932. This report, one of the very few published, presents the results of a careful and comprehensive enquiry into economic conditions. Scattered data on farm acreages from other districts in which there is neither exceptional pressure on land nor emphasis on other means of livelihood, such as exists in the environs of the larger market towns, give the same general picture. In Bomo, a village in Zaria province, where the standards of cultivation were high, a survey indicated that the areas of five household farms cultivated by traditional native methods ranged from 4.7 to 11.3 acres, the mean area being 7.4 acres. Several of the households concerned were, however, exceptionally strong in adult labour power, although this was offset to some extent by the fact that most men had some subsidiary occupation and source of income. Of the mean acreage of 7.4, food crops occupied 6.4. There was no surplus of food, indeed these households were net purchasers of grain. See Corby, H. D. L., 'Changes being brought about by the introduction of Mixed Farming', (Survey of Bomo Village, Zaria,) *Farm and Forest*, v. 2: 106-109, 1941.

² Shorter, R. B., and Bond, W. E. T., *Reports on Factors causing Soil Infertility in the Gwadabawa District, Sokoto Province*, 1939 (unpublished).

³ Backhouse, *op. cit.* Although the operative factors are complex, and on the available data cannot be adequately analysed, the decline in such cases does not necessarily or probably imply either a fall in standard of living or a loss of self-sufficiency in food production. Among the probable factors are the replacements of surplus grain by ground-nut production from a smaller acreage to meet new exchange opportunities. With the development of export cash crops, especially

The normal yield of grain per acre is of course dependent on climatic and soil conditions, while the actual yield in any one year may be seriously affected by climatic vagaries and still more by pests, of which locusts are the most serious hazard. No comprehensive series of soil fertility tests appears to have been undertaken, but it is clear that the yields on the light sandy soils near the northern border are barely half those on heavier better watered soils further south. Local variations are, moreover, very considerable. Thus an enquiry into the extent and productivity of different soil types in one district in Kano province indicated that fertility, as estimated from current yields per acre, was at its maximum on the prevalent light, red, sandy loam and on a heavy lateritic soil which together covered rather more than 70 per cent of the area, while the heavy clays and some patches of light gravelly soils gave yields of from 70 per cent to as little as 40 per cent of those on the sandy loam.¹

Sample estimates indicate that the yield of threshed grain ranges from 500 to 800 lb. per acre on soils of average fertility in northern Nigeria, and the yield of guinea-corn, generally the preferred grain, is normally lower than those of millets. Since, as will be seen below,² such estimates as are available indicate a grain consumption *per caput* of from 500 to 1,000 lb. per year, the general range of from four to seven acres of cornland per farm unit will correspond closely to the consumption needs of the ordinary household and normally affords little surplus for disposal.³

In the wide range of secondary crops, whose character and importance vary considerably with physical conditions and local standards of preference, it is more difficult than in the case of grain to distinguish between production for subsistence and for exchange. Outstanding are beans, cow-peas and the 'southern' crop, ultimately of course of New World origin, cassava, which is a very widely used ingredient in the native stew. Cassava is very valuable as a subsistence crop since it is resistant both to locusts and ground-nut and cotton, whose position in the total economy of the north will be discussed below, there appears to have been concurrent reduction in the areas concerned in the production of grain supplies, and the grain harvest has been reduced to the level of household self-consumption needs or even to somewhat below this.

¹ MacBride, D. F. H., *Assessment Report on Dawaka ta Kudu District, Kano Emirate*, and supplementary tables on acreages of sample farms, 1937 (unpublished).

² See Table xxxii, p. 159.

³ The household will require at existing levels of grain consumption the harvest from 1-1½ acres of grain per adult unit for its own needs. A small household of 1 man, 1 wife and 2 children would thus require from 3-4 acres of grain for its own needs, while a large unit of 2 men, 2 wives, 2 aged people and 4 children (=8 adult units) would require from 10-15 acres of cornland. The assumption that children (who in northern Nigeria appear to be taken as girls of under 14 or 15, and boys under 15 or 16) and aged persons normally consume about half the quantity of grain required by adults appears to be made generally by agricultural officers and others. What empirical or nutritional basis it has I have not been able to discover.

drought, and supplies can be obtained by digging mature rhizomes throughout the year. Other widespread minor crops are ginger, hibiscus ('*yakuwa*'), pumpkins, 'spinach' and red peppers. While beans and cow-peas are usually interplanted with grain, several of the minor crops, especially maize and sweet potatoes, are very generally grown by women in small amounts on the permanent and well-manured plots around the homestead.

In riverine areas, embanked irrigated plots are maintained on seasonally flooded lands (*fadama*) for the cultivation of small plots of onions, wheat, peppers and coco-yams (*gwaza* = *Colocasia* sp.). The individual plots on such land are usually very small, and a typical holding is less than half an acre, so that the substantial surpluses of these crops are exceptional; but where large tracts of irrigable land have been developed for surplus production, sugar-cane and rice predominate.

The higher acreage of household farm units in the northern grain economy is thus a consequence of the conditions of cultivation and the acreage yields; it does not imply that there is in general a substantial surplus of food products from the ordinary farm. It is possible in the first place because much less effort is required in clearing land for cultivation. There is no dense and tangled bush to be cut down, and the soil, less encumbered by woody roots, is more easily broken up. Secondly, by means of crop rotation a farm plot can, with resting periods of five to seven years, be maintained in cultivation for four or more years, whereas the southern yam cultivators, described in the previous chapter, every year clear and farm new ground which has grown up in bush during a resting period of several years.

To some extent this longer period of continuous cultivation is made possible by the symbiosis of the cultivator and the nomadic Fulani cattle herder, who kraals his beasts during some part of the year on harvested or fallow land, and so provides organic manure. But this system of kraaled cattle manuring, which will be discussed in more detail below, is by no means universally available, nor is it apparently indispensable to the securing of a succession of crop yields which are considered worthwhile under existing conditions. Recent enquiries in Zaria province indicate that, while land on which there is no kraaling of cattle is usually kept in cultivation for four years, land which has been kraaled is cultivated only for one year longer and has the same rest period of 5-7 years. The kraaling does, however, appear to affect the rotation selected and may also be very important in raising yields and in maintaining fertility in the long run.¹

The rotation of grain and cash crops, which to a large extent makes supplementary demands on plant nutrients, is also significant. In the more northerly areas, where ground-nuts are the main cash crop, this nitrogen-fixing leguminous plant can be most advantageously alternated with

¹ Agricultural officer's unpublished report, Zaria province, 1940.

grain crops.¹ Some secondary food crops, and particularly beans, interplanted with the cereal staples also help to maintain fertility.

The smaller plots near the homestead, which are normally much more considerable than compound plots found in the south, are regularly manured with compound sweepings, including goat dung, and are maintained in cultivation indefinitely to yield crops of maize, okra, peas and beans which constitute very important elements of the diet.

(c) WILD PRODUCE

Although the overwhelming proportion both in bulk and value of the food supplies is derived from agricultural production, significant elements are contributed by the collection of wild produce, and to a lesser extent, by hunting and fishing. Among the great variety of collected supplies, the tree products are outstanding. Some, like the shea-butter nut, provide edible fats and others, like the locust-bean (*dorowa*), protective food elements of considerable importance. In the more northern areas, the ungainly and ubiquitous baobab tree affords edible leaves and fruit which are regularly collected, as are the fruits of tamarinds, wild ebony and the desert date. Analysis of assessment data for the Dan Zomo district, which lies in this more northerly belt, indicates that the value of sylvan supplies in terms of local prices was about 13 per cent of the total value of locally produced food supplies, as compared with 66 per cent for farm products, 20 per cent from livestock and less than 1 per cent from hunting.

The collection of sylvan produce is not, however, confined to meeting subsistence needs and, although there is nothing in the north comparable in scale with the southern output of wild oil-palm products, considerable surpluses of shea-nuts, for example, are produced for the export market, while household surpluses of baobab leaves and locust-beans can be disposed of in the local markets. As with cultivation, there is no fast line between subsistence and exchange production.

Hunting, trapping and fishing do not characteristically contribute substantially or directly to household food supplies. Most of it is carried out by specialists who are often farmers as well, but who seek to secure a surplus which can be exchanged. The yield is in any case very small save in a few exceptional areas.²

Wild honey is collected from native made hives in some areas, but little

¹ For an account of ground-nut cultivation, see Chapter VI, pp. 243f.

² In the Dan Zomo district, referred to above, in which there was very little game, hunting was estimated to yield only 0.5 per cent of the total market value of food supplies produced. There were only 15 part time hunters in the entire district and their average bag was estimated at only 7 gazelles per annum, each carcase being valued at about 2s. The contribution to the food supply of the district was therefore quite insignificant.

effort is made to secure regular supplies, while the methods are said to be very inefficient. The Fulani appear to pay more attention to honey gathering than do the agricultural population of most areas.

(d) LIVESTOCK

The contribution to the food supplies made by livestock, other than those of the pastoral Fulani, which are considered in a later chapter, is derived mainly from small herds of goats and, in smaller numbers, sheep. In some areas goats are maintained on a considerable scale and a substantial cash income is secured from sales. The goat is everywhere a multiple purpose animal; the meat and the skins enter generally into the exchange system since the great majority are not killed for household use, but are disposed of by sale to traders and butchers. The exiguous amounts of meat which are occasionally consumed by the ordinary farming household are generally purchased at butchers' stalls in the local markets.

In Kazaure emirate, where conditions appear to be fairly favourable, though there is no particular emphasis on the rearing of small stock, up to a dozen goats were kept by nearly every household, but sheep were far less common. A large proportion of both were, as is usually the case, the property of the women and they were not a source of direct household supplies, but of cash income derived from sales.¹

The donkey, which is of very great importance in the total economy of the northern household in many areas, is not of very great significance for subsistence production since it plays little part in cultivation. Its chief value is as a means of transport to markets, from which higher prices are obtained for cash crops, or as a source of income from the transport of the goods of others.

(e) HOUSEHOLD EQUIPMENT

The subsistence element in the northern economy is, of course, not confined to food supplies. Housing and a considerable part of the domestic equipment as well as domestic services are self-provided by the household in rural areas. Unfortunately, while fairly adequate information on the technological aspects of these supplies is available, we know very little about the amounts and sources of labour assigned to their production. It is safe to say, however, that while the labour involved in the construction of huts, compound fences, granaries, etc., is considerable, it is small compared with that devoted to cultivation and is fitted into the intervals of dead time in the farming cycle. As in all economies where the market for labour is very undeveloped and alternative opportunities for its disposal are few, it is difficult to assign significant exchange values to the production

¹ It is worth noting that the fact that so many were owned by women had led to an underestimate of the livestock in a census taken a short while before, as only men were then questioned and did not include their wives' animals in their returns.

of such equipment. In more remote rural areas, house-building and work on domestic and farm equipment are virtually alternative only to the enjoyment of leisure at the expense of subsequent discomfort.¹ In urban areas, on the other hand, house-building and the provision of equipment for home or craft often become an item in an elaborate exchange system and must be discussed in that context.

(f) IMPORTANCE OF SUBSISTENCE PRODUCTION

While household subsistence production is obviously basic in the northern economy, it will already have become apparent that the items of regular consumption which are secured in this way are restricted. Although these account for a high proportion of the value, in terms of local prices, of the total consumption of the rural population, they are practically confined to staple vegetable food supplies and household equipment. In addition to these, there are items regularly consumed, such as salt and sour milk, which is an important element in the standard northern diet obtained from the pastoral Fulani, which most households do not produce for themselves.

An analysis of an incomplete but very helpful budget for the year 1939, obtained from a small yet apparently prosperous farming household with access to large markets in Misau district, in the northern part of Bauchi province, will serve to illustrate the relation between subsistence and exchange elements in the domestic economy in areas where facilities for both local exchange and the marketing of cash crops are well developed.²

The household consisted of one man, two able-bodied women, one old woman and two young children. The farm, 6·7 acres in area, included fields of grain and minor food crops, among which there were small plots of rice, sugar-cane, ground-nuts and cotton. The estimated total value of the crops at local market prices, as indicated in the table below, was £7 18s. 2d., of which £4 7s. 8d., or 55 per cent represented the part directly consumed by the household. Besides disposing of crops to the value of £3 10s. 6d., the man received 15s. for donkey transport services and the women 11s. 8d. for spun cotton and mats. Assuming probable

¹ The satisfaction received by the builder of his own home must be valued more highly than that of the current labour cost of the work done. In other areas near large market towns where a pecuniary reward can be obtained for labour throughout the year, the value might be assessed in terms of wage labour. It can also be imputed on the basis of the cash value of labour devoted to the production of crops whose local prices can be ascertained. Such an imputation will, however, ignore the point just made that work on the production of domestic and farm equipment may not be a real alternative to greater expenditure of labour on farming.

² It should be noted that the data relate to the period when export produce and local food prices had recovered considerably from the very low values in the early 'thirties to which some of the other data relate.

values for some of the minor items not included in the budget data, the total value of the household output excluding small livestock, of which there was no indication, amounted to approximately £10. Of this about 50 per cent was domestically consumed. Approximately 63 per cent of the incompletely estimated total consumption for the year was produced by the household. Of the recorded cash income of £4 16s. 2d., £2 18s. 10d. was spent on food and clothing, leaving a balance, after a tax payment of 7s. 3d., of £1 10s. 1d.

TABLE XX
ANNUAL BUDGET OF A FARMING HOUSEHOLD, MISAU,
BAUCHI PROVINCE, 1939.¹

	Production			Consumption			Sales		
<i>Farm Produce:</i>	£	s.	d.	£	s.	d.	£	s.	d.
Grain - - - - -	3	17	9	3	15	9		2	0
Other food crops ² - - - - -	2	11	9	10	7		2	1	2
Corn stalks - - - - -		8	8	1	4			7	4
Cotton - - - - -	1	0	0	—			1	0	0
Total	£7	18	2	£4	7	8	£3	10	6
<i>Other Production:</i> ³									
Donkey transport - - - - -		15	0	—				15	0
Spun cotton - - - - -		5	0	—				5	0
Mats - - - - -		5	8	—				5	8
[Collected foods - - - - -		5	0		5	0]		—	
[Homestead maintenance - - - - -		5	0		5	0]		—	
[Firewood - - - - -		5	0		5	0]		—	
Total	£9	18	10	£5	2	8	£4	16	2
<i>Recorded Purchases for consumption:</i> ⁴									
Meat and milk at 4d. per week					17	4			
Salt and other condiments at									
6d. per week - - - - -					1	6			
Clothing - - - - -						15			
TOTALS	£9	18	10	£8	1	6	£4	16	2
Tax - - - - -					7s.	3d.			

3. PRODUCTION FOR EXCHANGE

The exchange element in the northern agricultural economy is very variable in both value and composition. Although it serves mainly secondary needs and is also, in terms of local prices, of lower total value

¹ From data reported by the agricultural officer, Bauchi province, Feb. 1940.

² Including a small crop of ground-nuts.

³ There are no data for the value of household maintenance and collected produce, a probable value has been assumed for some of these and placed in square brackets.

⁴ These are certainly incomplete but the minor items need not have amounted to more than two or three shillings.

than production for direct consumption, it is nevertheless so firmly woven into the economic and general social structure that it has become equally indispensable in most communities. Its indispensability is most obvious in relation to the payment of tax. It will be recalled that tax-payment is not a British innovation in northern Nigeria, but has long formed an element in the political and economic structure. For this purpose to-day, every household needs to produce goods and services for which returns in currency can be secured. But while in some communities, as will be seen, there may be little more production for exchange than will meet this obligation and tax probably absorbs a very large proportion of the total cash receipts of the majority of the population, there are also communities and occupational groups for whom exchange production dominates their economic activity.

The diversity of the forms of exchange production can be usefully indicated in relation to the scale and remoteness of the ultimate market concerned, and the more important may accordingly be classified as follows:

TABLE XXI
MARKETS FOR EXCHANGE PRODUCTS AND SERVICES,
NORTHERN PROVINCES

(1) Goods	Internal Exchange			Over-seas Export
	Local District	Northern Nigeria	All Nigeria	
<i>Cultivated Crops:</i>				
Ground-nuts	-	-	x	x
Cotton	-	-	x	x
Sesame (Beniseed)	-	-	x	x
Ginger	-	-	x	x
Indigo	-	-	x	x
Sugar	-	-	x	
Calabashes	-	-	x	
Grain and pulses	-	-	x	
Root crops (cassava) and sweet potatoes	-	-	x	
Henna	-	-	x	
Tobacco	-	-	x	
Onions	-	-	x	
Rice	-	-	x	
Peppers	-	-	x	x
Banibara ground-nuts	-	-	x	
<i>Collected Supplies:</i>				
Shea-butter	-	-	x	x
Tiger-nuts	-	-	x	
Locust-beans	-	-	x	
Other wild leaves and fruits (Kuka, etc.)	-	-	x	
Game	-	-	x	

THE NATIVE ECONOMIES

(1) Goods	Internal Exchange			Over-seas Export
	Local District	Northern Nigeria	All Nigeria	
Fish - - -	-	✓	✓	
Honey and wax -	-			
Gum Arabic (in N. Bornu) - - -	-			×
Firewood - - -	-			
<i>Stock Products:</i>				
Skins - - -	-	✓		×
Livestock (sheep and goats) - - -	-	✓		
Donkeys - - -	-	✓		
<i>Manufactures:</i>				
Basket and Matting -	-	✓		
Rope - - -	-			
Salt - - -	-			
Cooked food - - -	-			
Leatherwork (buckets, shoes, etc.) - - -	-		✓	
Smithing - - -	-	✓		
Spun cotton - - -	-			
Cloth - - -	-	✓	✓	
Dyed cloth - - -	-	✓	✓	
(2) Services				
Donkey transport - - -	-	✓		
Trading - - -	-	✓	×	
Ceremonial - - -	-	✓		
Barbers - - -	-	✓		
Casual labour - - -	-		×	

It is immediately apparent that while there is a very wide range of commodities and services which is produced for local exchange, the range of those produced for remote markets within Nigeria and still more for export, is far more restricted. On the other hand, it is probable, to judge from meagre data on sources of cash income, that the value, in terms of local prices, of the goods produced for distant and particularly overseas markets considerably outweighs the aggregate value of the exchange production for local consumption.

Production for sale to native consumers within the local marketing area includes (a) a small fraction of practically all the crops and collected supplies, such as leaves and plants mainly produced for household subsistence, (b) the greater part of the output of specialist craftsmanship, (c) a variable fraction of most of the production which is mainly directed to distant and, particularly, overseas markets. For some products, such as ground-nuts, this fraction is very small, for others, such as cotton, it may be large. It is difficult to arrive at close estimates of the aggregate value of household or community production in these several categories, but it can be shown that, in areas accessible to road and rail transportation, the total

value at local prices is generally surprisingly small in comparison with both subsistence production and production destined for distant markets. In the first category (a) it has already been seen that so far as food crops are concerned, the value of the marketed fraction is in general only a small proportion of the total and is very much lower than the value of export crops sold.¹ On the other hand, as will become apparent below, exchange production for local consumption may assume very large proportions among rural communities living in the immediate vicinity of a large urban centre which makes heavy demands on food and other supplies.

The value of the *per caput* output of full time specialists, craftsmen, traders and others may be considerable, but they are only a minute fraction of the adult population, while even part time specialists are generally a minority in rural communities. In the comparatively remote Dan Zomo district of Gumel emirate, which the investigator considered to be backward in craftsmanship, 31 per cent of the adult male population claimed some specialist activity. But many of these were considered only to 'play with' their craft; probably, as elsewhere, they practised it only during the dry season when there was little to do on the farm.² The generously estimated *per caput* annual incomes of these part time craftsmen ranged from £2 for butchers to 10s. for rope-makers and the majority were estimated to receive about £1. The total district income from crafts was estimated at almost the same figure as for sylvan produce and bore, therefore, the same ratio to the value of the gross agricultural output, i.e. about 12 per cent. Most of the payments to specialists were made in kind with bundles of corn at harvest time.

A survey of the Soba, Jere, Kudan and Ikare districts of Zaria emirate, made in 1937 by Mr. L. C. Giles, which will be discussed more fully below, affords material on the scale and organisation of native craft production and trading activity in an area linked to a great market centre—

¹ The samples from Kazaure emirate, which enjoyed access to a large market for grain in Kano city, indicated an average of only 5 per cent of the household grain production as disposed of by sale, and the income was little more than a third of the average return from ground-nut sales. The value of the marketed fraction of collected supplies such as leaves, fruits, wild plants and firewood appeared to be as a rule almost negligible even by native standards. In the Dan Zomo district of Gumel emirate, it appeared that the total value of sylvan produce was less than one-fifth of the value of subsistence crops and about one-eighth of all agricultural produce while the marketed fraction of sylvan produce although not specified, was very small. (According to data in Backhouse, *op. cit.*)

² The ratio works out at 50 per cent if all Fulani are excluded, but many of these were settled and of these some may have had a craft. It was not clear how far individuals combined more than one specialist activity. Such combinations would still further reduce the proportion engaged in specialised activities. The report made no reference to women's crafts and there was no indication that spinning, the general woman's craft, was practised in this district which is too far north for much local cotton growing.

Zaria city—and probably representative of the more developed part of the 'cotton belt' of northern Nigeria.

Save for a handful of wholesale merchants and apart from the marketing of the main cash crop, cotton, in the hands of a few firms whose agents make considerable advances to growers, traders neither have nor require any considerable amount of trading capital. Village trading is founded on a complicated system of sales on short-term credit or on commission. Such capital as is needed is hardly ever borrowed.¹

Retail trade in kola nuts imported from the south, which is reckoned as one of the most profitable enterprises in these districts, depends on the imports of Zaria wholesalers. Through a series of middlemen the bulk of the supply of the nuts is finally handled on a commission basis by these retailers, usually quite young boys, who are given 50 or 100 nuts to sell at a specified price in the market or by hawking from compound to compound and receive 1d. or less in the 1s. when they return with the proceeds.²

Butchers are not wealthy men, although often they do not farm seriously themselves and spend most of the year visiting a circuit of markets. The turnover on animal products is very small. At an ordinary local market in this area, the most which could be found would be the meat of one or two goats and it is only in the largest town markets that more than one beast would be slaughtered on one day. Those who have a little capital buy lame animals from passing herds to fatten up for slaughter with the expectation of from 50 per cent to 100 per cent profit; but most butchers have to pool their financial resources in order to buy a Fulani bull for butchering, or obtain credit, or part credit from the owner of the beast, completing the transaction only when the meat has been sold. Local live cattle prices were 15s. to 20s. for an old cow and 20s. to 40s. for a good beast at the time of the survey. Goats are purchased a few at a time from villagers as offered and butchered for quick resale. The butcher or the co-operative group who slaughter a bull dispose of the carcase to retailers, who make bids for individual cuts. Traders in hides and skins, on the other hand, require greater resources, since they must make immediate payments to the

¹ See the section below on Wealth, Poverty and Debt, p. 164. If traders lack sufficient capital they buy on commission for others, such as wholesale trading firms or their agents, or more rarely enter into partnership agreement with one who has funds to venture in trade but does not wish to enter actively himself. In the last case an agreement is reached, which does not infringe Moslem laws prohibiting loans at interest, whereby the profits of the enterprise are shared between the 'financier' and the 'trader'.

² A hundred kolas sell retail at from 2s. to 4s. The city wholesalers sell to middlemen going out to or coming from the outlying areas, either outright or on full or part credit, and these sell at their own stalls on market days to smaller middlemen in more remote villages as well as supplying nuts to retailers. No increase in price is charged by the wholesalers or the larger middlemen to the small dealers who receive their nuts on credit. The retailing of short sticks of sugar-cane is organised in a similar way.

butchers who have these goods to offer. Many of these trades are financed directly, or indirectly through middlemen, by European buying firms or rich merchants of Zaria city. One of the difficulties confronting the much desired improvement in the quality of goatskins in this area has been the difficulty of persuading butchers to pass on to the vendor of a short-haired all-red Sokoto goatskin some part of the premium that he may expect to get from the skin buyer in due course.¹ Small-scale purchase of hides and skins on commission as an agent for a city firm is often combined with other trading activities such as cloth trading.

A very wide range of goods are sold through brokers, a custom which may survive from a period when the smaller local markets were more frequented by strangers than to-day. A visiting trader leaves a supply of goods with the local broker. Cloth, clothing, grain, ground-nuts, livestock, beans, sugar-cane and locust-beans are all for the most part bought and sold in this way through residents of the locality who know the supplies, needs and tastes of their own districts, and the local trend of prices.² Although some locally woven cloth is sold direct to a tailor or the individual customers there is very little attempt in general to circumvent broker's profits. In fact, there appears to be an aversion to any attempt by a producer to increase his profits by taking over the sale of his goods. The native producer, like the trader, much prefers in general to enlarge his business horizontally rather than vertically.³

Craftsmen in this area similarly operate with the minimum of capital. Spinning and weaving, the most widespread crafts, require very little since production is in very small lots and the equipment costs little. Production is correspondingly inefficient and extravagant in labour. The small quantities of cotton which women require for each batch of spinning can presumably be easily paid for from the proceeds of their last sale of thread to a weaver.⁴ The amount required by a weaver for one piece of

¹ See Chapter VIII, pp. 283f.

² The marketing of cotton, the main cash crop, is referred to in more detail elsewhere, see p. 169.

³ The wealthy trader is a 'general merchant' dealing in any line that becomes available. Thus, Mr. Giles describes the richest man in Kargi (one of the larger settlements) as one who 'buys hides and skins, sells (goods) on credit, buys corn "futures" (i.e. before the crop is ripe, still less harvested), buys peppers and okra cheap and sells dear, puts visiting traders in touch with sellers, and acts as broker; while probably the richest man of all in the area studied, a merchant at Rahama (railway) station, had 'never produced anything but buys and sells everything; he is indispensable to the trading firm with whom he works and bought nearly half their cotton for them this year, although their own canteen (store) is next to his.'

⁴ Cloth woven by women on their wide looms, which has been almost entirely displaced locally by imported white cloth for the man's gown and is now used only by the Fulani, is mostly disposed of to brokers who purchase for the Kano market. Most of the cloth woven by men on the narrow loom and used for caps, gowns, tunics, etc., is similarly sold to a dealer or his broker who disposes of it to tailors and other purchasers.

work costs only a few pence even if it includes imported thread. The value of the looms themselves amount to only a few shillings.

Ironsmiths in this area do little or no farming themselves. They receive much of their return in grain. It is the custom for clients to present the smith with a bundle of corn at harvest and a payment, usually in corn, when repairs are carried out.¹ Native smelted iron is no longer available, although farmers preferred it since it was so soft that they could put an edge on their tools themselves. Although in this area imported iron is generally available from the European firms, the chief source of metal is scrap, of which railway sleepers are the most important and valued source. A smith does not expect to pay for a supply of scrap until he has sold the wares he has made from it. If he cannot obtain credit he endeavours to join with others in similar difficulties to make a cash purchase in common; as a last resort, he will collect in advance contributions from his future customers to pay for the iron. The smith's household usually collects all the wood required for charcoal which the smith makes for himself wastefully by quenching an open wood fire.

Tailors fall into two distinct classes with different costs. Those who work with native cloth which must be sewn by hand are now in the minority; they have little or no capital and prefer to obtain their cloth from a dealer who will give credit. Where no cloth dealers or brokers are able or willing to supply weavers on credit, the latter have often to obtain loans of 5s. repayable at 6s. in 14 days, before they can undertake an order.

Machine tailoring, which by now accounts for by far the greater part of the output of clothing, shows distinctive features since it requires a greater capital outlay. There were a few treadle sewing-machines costing £9 to £11 in 1937. No one attempted to borrow so large a sum commercially, while those who could afford to purchase machines were often unfitted or unwilling to learn to operate them. The machinists are usually young men; consequently many tailors are not the owners of their own machine, but employees of men who have invested the profits of trading or farming in a sewing-machine.²

¹ In remote districts the smith can put considerable pressure on his clients for, if they refuse him gifts of corn when he is short or even loans to buy iron, they will find urgently needed repairs to a hoe unaccountably delayed.

² Most sewing-machine owners begin by acquiring an old one for £3 or so and after making profits or other savings sell this to purchase a newer one and so on. The employee is often a son or more distant relative of the owner, but even if no kinsman, the owner usually treats him as a son of the house providing board, lodging and essential clothing, paying his tax and the greater part of his marriage money. The owner usually takes from a third to a half of the receipts. During the farming season the tailor works with the owner on his farm unless the owner has invested in cloth, which can be bought more cheaply at this slack season, for making up before harvest time. Youths who wish to become tailors seek introduction to men of means who would be prepared to buy a machine and set them up in business. It would be considered very improper for such a tailor employee to desert

The making of expensive embroidered gowns, which is both a skilled and speculative business involving the tailor in heavy outlays on cloth and other material, is confined here to a few tailors in Zaria and the larger centres of population where there is a considerable market. The ordinary village machine tailors restrict themselves very largely to making up plain clothing from cloth which the customers supply, and to doing repairs.

4. TYPES OF RURAL ECONOMY

The general conditions and scale of the production of cash crops mainly for export has been indicated above and it has been emphasised that this form of production probably accounts for a considerably greater proportion of exchange production than do the activities of craftsmen and traders. There are, however, great regional differences in both the character and importance of cash crops and this can best be indicated in connection with the brief survey of types within the northern grain economy which follows.

(a) GROUND-NUT AREAS

The differences in physical conditions and in economic development in the north make it necessary to select for analysis the economy of a number of communities which will exhibit the various types which are to be found. The data available are very inadequate but there is sufficient material to indicate the general character of production according to variations in physical conditions, density of population, and access to central markets for native consumption and export products.

A survey of data obtained in 1934 from Kazaure emirate in Kano province,¹ referred to earlier, will serve to indicate the variety and levels of production characteristic of the northern grain economy in areas of moderately high fertility, with good access both to large native markets in urban centres and to collecting centres for export products. Kazaure lies in the north-central part of the ground-nut zone, only some forty miles from the city and wholesale market of Kano.

Guinea-corn and millet, in approximately equal amounts, with beans and cassava, were the universal crops which provided the bulk of the household food supplies, and most farms yielded at least small surpluses of these for marketing. While ground-nuts for sale were the other main crop on the vast majority of farms, a minority of households concentrated, at the expense of the ground-nut production, on other cash crops such as

his master if and when he was in a position to buy a machine of his own. The proper course is for him to become an employer in his turn, that is to buy a machine of his own and with his own master's consent find an employee to work it, thus expanding the business unit while maintaining the connection.

¹ See p. 122, note 1.

sugar, onions, indigo, henna and tobacco; on special crafts, among which weaving was outstanding; or on trading and donkey transportation.¹

The sylvan resources were also varied and abundant but there appeared to be little attempt to secure surpluses for marketing. Livestock supplemented the income of nearly every household. Although horses and mares were owned only by a small, prosperous and eminent minority,² one or more donkeys and a small herd of goats, or more rarely of sheep, from which sales were regularly made, were kept by nearly every household. The donkey not only enhanced the productivity of the farm by its use for haulage there, but it also made it possible to transport crops to markets in or near the large urban centres, where prices 20 per cent to 30 per cent higher than those ruling in the local markets could be obtained. The donkey-owner could also hire his services, or that of his beast alone, for transport work, and could transport goods in order to engage in part time small-scale trading on his own account. Only the Fulani reared horned cattle.

Most women spin cotton yarn and prepared cooked foods and bundles of edible leaves or fruits for sale in the local markets, while men made rope, basketry and matting in their spare time. But the returns from this desultory craft work, which appeared rarely to exceed a few shillings per head in a year, were negligible in comparison with those secured by men who systematically pursued more highly skilled crafts. Weaving was the only outstanding men's craft in Kazaure, and in a few districts both the level of skill and the value of output were exceptionally high. Gross incomes of £10 per annum from weaving were not exceptional.

The diversity of output both in farm products and in the various supplementary economic activities was such that no modal average or 'standard' valuation would adequately indicate the character of production, or the proportions of subsistence and exchange production. But, on the other hand, when the value of the combinations more commonly found are compared, it is seen that the variations in local values were surprisingly small. A small minority of households had incomes far above the average, in consequence of amassed or inherited wealth in stock, of large numbers of able adult workers, of exceptional skill in a craft or trading, or of additional incomes from dues or salaries for public services. Among these was the small non-farming element, full time craftsmen, traders and officials in the large villages or towns. But the value of production per adult male appears to vary very little for the great majority.

Most households in Kazaure included more than one adult male working member,³ so that for the purpose of summarising and comparing

¹ Statistical data on this point are, unfortunately, not available.

² A census in 1933 indicated that less than 10 per cent. of the male population owned a horse or mare.

³ From a sample of ninety households, which was said to include all kinds, only 38 per cent contained only one man, while the same percentage contained 2 men and in the balance of 24 per cent there were from 3-5 men.

the various combinations of household production, values are best estimated in this area for a household of two able-bodied men with two or three able-bodied women, which appears to be the norm. On the basis of average outputs and prices some attempt can be made to estimate the levels and values of production. It may be objected that the value of many items has been only roughly imputed, but in the absence of more exact budget data it seems worth attempting to gauge the size and composition of household budgets from the limited material available. Even the errors may serve their purpose by evoking comment and calling attention to the need for more adequate investigations. It must be borne in mind that these 1934 estimates relate to a period of low prices for ground-nuts and most other marketed goods in this and other areas. The following types of household may be usefully distinguished in Kazaure:

- I. Subsistence and ground-nut production.
- II. Subsistence, ground-nut and additional dry cash crop production.
- III. Subsistence, ground-nut and sugar production.
- IV. Subsistence and onion crop production.
- V. Subsistence and craft production.

TABLE XXII

BUDGET ESTIMATE FOR FARMING HOUSEHOLD (SUBSISTENCE AND GROUND-NUT PRODUCTION), KAZAURE EMIRATE, KANO PROVINCE, 1934

	Gross Value ¹	Deducted Costs ²	Total	Net Value Subsistence	Sales Locally	Export
	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
A. Crops and By-products:						
1. Grain, c. 2,500 lb. ³ -	3 5 0	3 0	3 0 0	2 17 0	3 0	—
2. Corn stalks at 10% of (1) -	6 0	—	6 0	6 0	—	—
3. Beans -	7 3	3	7 0	7 0	—	—
4. Cassava -	5 3	3	5 0	3 0	2 0	—
5. Sweet potatoes ⁴ -	7 3	3	7 0	2 0	5 0	—
6. Minor crop, -	2 3	3	2 0	2 0	—	—
Cash Crops:						
7. Ground-nuts ⁵ -	17 0	1 0	16 0	1 0	—	15 0
B. Livestock:						
8. Goats or sheep ⁶ -	12 6	2 6	10 0	—	5 0	5 0
9. Donkey ⁷ -	7 6	1 6	6 0	—	3 0	3 0
C. Sylvan Produce:						
10. Firewood -	5 0	—	5 0	5 0	—	—
11. Fruit and leaves -	5 0	—	5 0	5 0	—	—
12. Honey -	1 6	—	1 6	6	1 0	—
D. Marketing and Transport (values included in output values of crops, stock, etc.)						
E. Crafts:						
13. Kope, basketry and matting from own materials	6 0	—	6 0	1 0	5 0	—
14. Spinning, cooked food, etc., by women -	6 0	1 0	5 0	—	5 0	—
F. Household Maintenance:⁸						
15. Maintenance and repair of house, well and household equipment with own materials (20 days at 3d.) -	5 0	—	5 0	5 0	—	—
Totals for household -	£7 18 6	12 0	£7 6 6	£4 14 6	£1 9 0	£1 3 0
	Gross Value	Deducted Costs	Total	Net Value Subsistence	Local Exchange	
Total per adult male ⁹ -	£3 19 3	£0 6 0	£3 13 3	£2 7 3	£1 6 0	
Total per adult unit -	£1 6 5	£0 2 0	£1 4 5	£0 15 9	£0 8 8	

¹ Assuming no net depletion or enhancement of soil fertility and other resources.

² Estimated to include seed, materials, repairs and replacement of tools, granary, etc.

³ No exact records are available; the quantities are based on local estimates of typical production. Values are at local harvest prices.

⁴ The value of tops, etc., is assumed to be included in the return on livestock below.

⁵ The ground-nut values are based on the current low rate of £2 10s. per ton, a few years earlier the dealers were paying £7 10s. per ton. Where other dry cash crops were grown they usually replaced a corresponding area of ground-nuts and yielded the same or a slightly higher return.

⁶ Value of gross increase of 5 beasts at 2s. 6d.

⁷ Gross return includes increment on market prices of crops sold and receipts for transport services, net return allows 1s. 6d. for ageing of beast.

⁸ This does not include any allowance for self-supplied domestic services which if given a cash value would add from 30s. to £2 to the assessed value of household production or; say, 17s. 6d. per man and 8s. 9d. per adult unit.

⁹ In a household of 2 men, 2 women and 4 children = 6 units.

TABLE XXIII

BUDGET ESTIMATE FOR FARMING HOUSEHOLD (SUBSISTENCE, GROUND-NUT AND DRY CASH CROP PRODUCTION), KAZAURE, 1934.¹

	<i>Production for Subsistence</i>			<i>Net Values Sale</i>			<i>Total</i>		
	£	s.	d.	£	s.	d.	£	s.	d.
1. Food crops as in XXII above	3	17	0	10	0		4	7	0
2. Ground-nuts " "		1	0	15	0		16	0	
3. Livestock " "				16	0		16	0	
4. Sylvan produce " "		10	6	1	0		11	6	
5. Crafts " "		1	0	10	0		11	0	
6. Household maintenance -		5	0				5	0	
7. Additional crops - -				10	0		10	0	
Household total - -	4	14	6	3	2	0	7	16	6
Per man - - - -	2	7	3	1	11	0	3	18	3
Per adult unit - - -		15	9		10	4		1	6

TABLE XXIV

BUDGET ESTIMATE FOR FARMING HOUSEHOLD (SUBSISTENCE, GROUND-NUT AND SUGAR PRODUCTION), KAZAURE, 1934.²

	<i>Production for Subsistence</i>			<i>Net Values Sale</i>			<i>Total</i>		
	£	s.	d.	£	s.	d.	£	s.	d.
1. Foodcrops, ground-nuts, livestock, sylvan produce, crafts and maintenance as in XXIII above - - -	4	14	6	2	12	0			
2. Sugar crop - - -				1	10	0 ³			
Household total - - -	4	14	6	4	2	0	8	16	6
Per man - - - -		2	7		2	1		4	8
Per adult unit - - -			15			13			5

¹ E.g. tobacco, henna, cotton in addition to a normal ground-nut production.

² The sugar producing areas in Kazaure contain rather less than 10 per cent of the total population of the emirate.

³ The realised value varies greatly according to the wide variation in acreage, the season and whether or not the crop is cut and marketed by the household. An average yield from an ordinary $\frac{1}{2}$ acre plot sold standing is assumed here; but the range of income from sugar plantations was reported to be from 10s. to 50s. with exceptional returns up to over £10.

TABLE XXV

BUDGET ESTIMATE FOR FARMING HOUSEHOLD (SUBSISTENCE AND IRRIGATED CROP PRODUCTION OTHER THAN SUGAR), KAZAURE, 1934.

	<i>Production for Subsistence</i>	<i>Net Values Sale</i>	<i>Total</i>
	£ s. d.	£ s. d.	£ s. d.
1. Food crops and sylvan produce, livestock, crafts and maintenance as for XXIII above (no ground-nuts) - - - -	4 13 6	1 17 0	
2. Irrigated crop (e.g. onions) ¹ -	—	2 0 0	
Household total - - -	4 13 6	3 17 0	8 10 6
Per man - - - -	2 6 9	1 18 6	4 5 3
Per adult unit - - -	15 7	12 10	1 8 5

TABLE XXVI

BUDGET ESTIMATE FOR FARMING HOUSEHOLD (SUBSISTENCE AND CRAFT PRODUCTION), KAZAURE, 1934.

	<i>Production for Subsistence</i>	<i>Net Values Sale</i>	<i>Total</i>
	£ s. d.	£ s. d.	£ s. d.
1. Food crops and sylvan produce, and homestead maintenance as for XXII -	4 12 6	—	
2. Livestock - - - -	—	10 0	
3. Part time weaving (two men) ² -	—	5 0 0	
4. Minor (women's) crafts -	—	5 0	
Household total - - -	4 12 6	5 15 0	10 7 6
Per adult man - - -	2 6 3	2 17 6	5 3 9
Per adult unit - - -	15 5	19 2	1 14 7

¹ An onion crop requires much labour including piecemeal sales in local markets and onion growers rarely cultivate ground-nuts for sale.

² The values will obviously depend on whether only one or both the men are part time specialist craftsmen. It is here assumed that both are so engaged and that cash crop production has been sacrificed. But in Roni some men engage in both craft (weaving and dyeing) and in addition in sugar or indigo production. The household output would then be increased by a further £1 or 30s. to reach a total of £11 or £12. In 1934, a full time weaver who did no farming was making a profit of at least £5 while a dyer made about £9 a year. It may be presumed that subsistence production of food supplies was usually undertaken in addition by the rest of the household.

It will be seen that in a household concentrating on the production of food staples and ground-nuts the value of production for direct consumption is nearly twice that of sales, while production for export overseas is well below a third of total output, though the proportions may change with price variations. During the nineteen-thirties the export prices of ground-nuts fluctuated both abruptly and extensively. Only a few years before this survey of 1934, the local price of ground-nuts had been three times as high. Such fluctuations in ground-nut prices do, of course, affect those of other goods and services by affecting the amounts of currency in local circulation. It does so, however, only to a reduced degree since subsistence production is so important and the demand for grain and other food-stuffs in the towns is so inelastic with respect to income. In the years of high prices the value of the ground-nuts produced for export from a household of the type analysed may have exceeded £3, in which case the total value of exchange production would probably have exceeded that for subsistence.

The farming households of the other types considered will also be affected by such fluctuations in ground-nut prices, not only directly, if they are producing a ground-nut crop, but also indirectly, although with some time lag in the contraction and expansion of demand for their surpluses. Thus, the demand for gowns, for dyers' cloth, sugar-cane, portorage and for trading services, will fluctuate in sympathy with the size of the cash incomes received by the great majority of the farming households from the sales of their ground-nuts.¹ So far there has been no close study, either here or elsewhere in Nigeria, of the relation between local prices for export produce and those of locally produced consumption goods.

Consideration of a more general survey in 1933 of data available on production in the northern division of Kano province as a whole (of which Kazaure emirate forms part) indicates that the level of output from household production in Kazaure, although somewhat higher than in most other parts of the division, adequately illustrates conditions in the more developed areas of the ground-nut belt in northern Nigeria, and the types of production which have developed from the combination of subsistence, local market and overseas export production in that belt.²

In Kazaure and also in Daura emirate, the general level of farm output judged by volume and prices received appears to be distinctly higher, particularly in ground-nuts, than in the more remote Hadeija and Gumel emirates which have only more recently and less effectively gained access

¹ Fluctuations in the prices of exported skins will be likely to have similar effects, but on a much smaller scale, since the relative value of the total production has been much lower.

² Leslie, S. A. S., *Memorandum on the Relationship between Ground-nuts and General Tax in the Northern Division, Kano Province*, Jan. 1934 (unpublished).

by road and rail to Kano, the great centre of native demand for consumption goods and the main focus for assembly and shipment of exports.¹

The average level of ground-nut production per adult grower in the division as a whole was estimated at this time to be about 375 lb. from a $\frac{1}{4}$ -acre plot, giving, at the average local prices in 1933, a basic cash return of just over 8s. With an estimated total adult male population of 130,000, there were thought to be about 92,000 farm units cultivating ground-nuts (some presumably were worked by two or more men and their dependents) and the total ground-nut area of between 75,000 and 80,000 acres produced some 16,000 tons of nuts with a value of approximately £34,000. This sum was less than the general tax assessment of the division as a whole, not including the *jangali* tax on cattle, viz. £41,000. Further production of marketable products was, therefore, needed to meet the rest of the tax and for other payments including those for purchased consumption goods. In Kazaure, as has been seen, further exchange production was considerable, and at 1934 prices, exceeding the value of ground-nut production. But Kazaure was considered to be outstanding in the production of surplus grain much of which contributed to the needs of Kano city.²

(b) COTTON AREAS

The characteristics of household economy in the main belt of cotton production in Nigeria, which lies to the south of the ground-nut belt, have already been illustrated by an earlier analysis of a sample budget from Misau in the north of Bauchi province.³ Although in this case nearly half the produce of the farm was sold, the growing of rice and sugar at the cost of some reduction in cotton output reduced the importance of export crops so that the greater part of the farm output was for local, if not entirely for household, consumption. The estimated total money value of the production from this one-man farm was higher than that for an estimated two-man farm in Kazaure, but this discrepancy is to be discounted to some extent by the general recovery of prices between 1933 and 1939, and by the fact that the farm itself was considered to be above the average in productivity.

More typical probably were the conditions reported for north-east Zaria by Mr. Giles.⁴ In the Soba and Ikare districts a normal grain production for the typical household of one man, with wife, and one working

¹ Hadeija also contained a large tract, with an estimated adult male population of 18,000, in the south in which heavy, damp soil conditions largely precluded ground-nuts and these were largely replaced by cotton, tobacco and market vegetables.

² This judgment made on the spot, while likely to be correct, does not accord with the grain production estimates of the reports. The data do not permit the estimation of a comprehensive budget but are useful as indications of the levels of physical production.

³ See p. 130.

⁴ *op. cit.*

minor, was thought to be 20 bundles or about 1,300 lb. of guinea-corn, 15-20 bundles or 800-1,000 lb. of millet together with about 600 lb. of maize, or about 2,500 lb. of grain in all, from which a surplus of about 800 lb. would be available for sale, given a consumption of 1.5 lb. per man unit per day.¹ Local guinea-corn prices were said to range from 3s. to 8s. per sack of grain according to the market and season; assuming the surplus of 800 lb. of grain to be all in the most valuable and marketable form, guinea-corn, it would sell for 6s. 4d. to 16s. 10d. or say, 11s. 6d. on the average. At guinea-corn prices (the only data available), the value at local market prices of the total grain output ranged from 30s. to £4 according to the time and place of sale. The cash values of other farm products in this area were said to vary very widely from year to year with the differences in climatic and marketing conditions.² In 1937 typical returns were estimated at 22s. for ground-nuts and 12s. for cotton. The few sugar-cane farmers were found to be far from self-subsistent in corn, and their higher cash incomes had accordingly to be drawn on for purchases of grain although they were often able to purchase this at its lowest price.

(c) KANO* AREA OF INTENSIVE FARMING

A number of distinctive features are immediately apparent in the economy of the closely settled and intensively farmed area in the country surrounding the largest towns. Round Kano this zone extends for a distance of some 25 to 30 miles from the city proper.

The conditions here can be illustrated from a study in 1937 of the Dawaki ta Kudu district which lies south-east of Kano within the bend of the Chellawa river. It was closely settled and there was very little uncultivated bush. Approximately 80 per cent of its area of about 300 square miles consisted of registered farmland. The total population (1937 local census) of 104,431, which gave an average density of 348 per sq. mile, was mostly scattered in single dwellings or small hamlets throughout the district. The farming household in districts such as this had little freedom of action in expanding or shifting the area cultivated. It was pegged down to the 4 or 5 acres to which its head had succeeded. There was little bush although there were small grazing commons near the larger villages and the wide

¹ A sack of guinea-corn containing the threshed grain of four bundles, i.e. c. 260 lb., was estimated to meet the grain needs of such a household for 'perhaps two months'. For eight weeks this is equivalent to c. 4.5 lb. per day or about 1.5 lb. per man unit per day, and implies an annual household corn need of about 1,700 lb. in which case there would be a grain surplus of some 800 lb. above food needs for sale.

² The minimum cost of farm implements for a small household in this area was from 2s. to 2s. 6d. per annum. A large hoe is said to cost 3s. and from 1s. to 1s. 6d. for repairs each year, or a total cost of 5s. to 6s. for the three years of its life. The small hoe, costing 6d. to 9d., lasts only one or two seasons; assuming repairs of 3d. to 6d., the total cost would be about 1s. for the two years.

cattle lanes reserved from cultivation to provide avenues for Fulani cattle migrations. Dwelling sites were often moved within the farm area after only two or three years in order to take advantage of the increased fertility of an inhabited site.¹

The grain crops which account for half the planted acreage² were almost universally interplanted with cow-peas, which were valued at about a fifth of the grain crop itself.³

The guinea-corn stalks, extensively used for building huts, windbreaks and granary walls, and bulrush millet stalks, used and sold for fuel, could be assessed at local prices as worth 20 per cent of the grain crop in the case of guinea-corn, and 10 per cent in the case of bulrush millet. Similarly the leaves and stalks of ground-nuts, which were a valuable stock-feed, were worth about 16 per cent of the value of the ground-nuts themselves.

In the virtual absence of bush fallowing, manuring was of great importance and the value (at local prices per ass-load of c. 200 lb.) of animal manure applied to the fields was found to be about 10 per cent to 15 per cent of the value of the crops, although the actual ratio of harvest value and manure costs varied very greatly in different areas.⁴

The gross value of the agricultural produce (without deducting manure costs) of all the non-irrigated farmland in the district, amounting to about 150,000 acres, was estimated on the basis of acreages, soil type and reported yields, to be approximately £168,000 in 1937 at current prices,

¹ MacBride, *op. cit.*, and Agricultural Department tables on acreages of sample farms on different soil types. Use has also been made of supplementary information kindly supplied by Mr. MacBride. These do not, unfortunately, include data for a series of individual household units, but comparable estimates of typical household outputs can be reached indirectly.

² Three crops were found to occupy together over 80 per cent of the cultivated acreage of the district. Guinea-corn accounting for 39 per cent, bulrush millet (*P. spicatum*) for 13 per cent and ground-nuts for 31 per cent.

³ These cow-peas planted after the main crop was established, could not be said to occupy land at the expense of the grain which is planted at the normal minimum interval. On the other hand, if planted too early, the cow-peas may depress the yield of grain while a bumper crop of grain usually meant a poor yield of the inter-sown cow-peas.

⁴ A small series of samples in which the manure cost ranged from over 30 per cent to only 2 per cent of the value of the grain crops suggested that those on the better soils were being more heavily manured than the poorer and showed a higher proportionate manure cost. Thus, two well cultivated and very productive farms, on the more fertile light red soil (*jargargari*), which gave an average yield of 2,072 lb. of unthreshed guinea-corn an acre (valued at 5s. 2d.), received 54 ass-loads of manure (valued at 16s., or 15 per cent of the value of the crop). The manure cost was 21 per cent for an average of 57 loads per acre on four farms on laterite soil, which yielded 1,209 lb. of unthreshed corn per acre. On the other hand, the manure cost was only 8.6 per cent on two farms of poor black clay (*fako*) soil, which were given only 10 assloads per acre and yielded 503 lb. per acre of unthreshed corn.

giving an average return of £1 2s. per acre or £5 5s. per able-bodied man.¹ The small acreage of irrigated land bearing onions, rice and other crops gave a much higher return of about £9 per acre after deducting manure costs.² The estimated net value of crops from the 626 acres irrigated land (approximately £5,600) was, however, less than 4 per cent of the value of the net output from dry farms.

A count made in the district at this time showed that the livestock, apart from horned cattle, nearly all of which belonged to migrant Fulani and spent little time in the district itself, was considerable, but a reasonable estimate of returns on sales suggests that these are only about 6 per cent of the estimated crop values.³ The value of stock is by no means fully indicated, however, by sales. The small stock provided manure in night pens and on the farm plots, when they were left free to roam the stubble in the dry season. The donkey was, even more than elsewhere, most important, as a provider of transport services both on the farm and in marketing. The services of a transport donkey, which were often hired or shared, were valued at about 2d. per day. Since the donkey population averaged one per 16 persons and they were not concentrated in the hands of a few owners, it is probable that one or two donkeys were available in the smallest hamlets and that the ties which commonly exist between kinsmen and neighbours included a claim to the services of the beasts available.

¹ The actual estimates were 150,215 acres yielding produce less manure costs to the value of £153,153, but in view of the necessarily approximate character of the estimates close calculation of rates is inappropriate.

² Estimated on the basis of reported yields and prices of the various crops from many plots, at £9 5s. per acre. To this must be added a small mid-season return of about 3s. per acre. The costs of irrigation farming were, however, increased by the need of manure costing 8s. per acre, so that the net returns will be rather less than £9 per acre.

³ The natural stock increases worked out for other districts in the vicinity of Kano when applied here give the following values:

Stock	Nos.	Average Adult Value		Ann. Rate per Beast		Yield Total	
		s.	d.	s.	d.	£	s. d.
Horses - -	441	60	0	—	—	—	—
Mares - -	335	50	0	13	0	217	15 0
1. Donkeys - -	6,516	18	0	2	3	733	1 0
1. Goats - -	33,133	4	6	4	10	8,007	2 10
1. Sheep - -	8,554	4	0	1	6	641	11 0
						£9,599 9 10	

1. both male and female.

The annual increase of stock might be more properly regarded as an addition to capital equipment rather than to income; but the estimated value of the increase gives a fairly good indication of the value of the stock which is actually disposed of in the course of the year. In an area so closely farmed and with little variation in fodder supplies the stock cannot be greatly increased so long as the farming system is unchanged.

The value of these donkey services, at 2d. a day for 300 days, earned by half the adult beasts, would amount to rather more than £8,000 per annum.¹

Despite the close settlement, the sylvan produce was far from negligible in this district owing to the practice of preserving trees, notably the tamarind, the locust-bean and 'dinya' (*Vitex Cienkowski*). These trees were valuable not only for their fruits or leaves but as the main source of fuel, any surplus of which could be readily marketed in Kano. Although small surpluses of all these items were often sold, no data on the value of typical household or district outputs of sylvan produce are available.

The picture of craft and trading activities in the Dawaki ta Kudu district differs less from that of areas more remote from a great city market than might have been expected. While almost every household secured a substantial additional income from craft production, transport work or trading, these outputs were, to an overwhelming degree, subordinated to farming tasks.² The specialist activities recorded, which fell into over thirty classes, showed a wide variety and ranged from butchers and weavers to petty traders in special lines, such as palm poles and indigo, or makers of fans and spindles. Estimated annual incomes ranged from exceptionally high returns secured by a few grain retailers, up to £18; master butchers, £8; brokers, £7 10s.; to the £1 2s. secured by the more industrious of the part time weavers, who numbered nearly 3,000, and the few shillings obtained from retailing cooked food at the roadside markets. An estimate of the total money incomes received by all recorded specialists was not made, but an indirect calculation from the standard tax rates on crafts in the district suggests that the totals are in the neighbourhood of 10,000 persons receiving £30,000, or equivalent to just over 16 per cent of the gross value of crop production (c. £175,000).

Although it is difficult to distinguish between craft and trading activities since in many cases the two functions are combined, it is important to note that while men who were dealers handling goods produced by others accounted for only a fifth of those engaged in specialist activities (2,284 out of 10,053), they received more than one-third of the total estimated cash income (£12,313 out of £29,939).³

¹ This might in part have been comprised in the prices actually received for much of the farm produce which was disposed of. But the crop prices used in estimating the value of agricultural produce were local prices within the district, if not actual 'on farm' prices, so that grain carried by donkey to the large markets, and especially to Kano city, would be likely to have secured a higher price in which the increment for transport was included.

² Of the total adult male population of 32,180, one in three reported some craft output, while all but seventeen of the 10,053 persons thus described also worked farms on which tax was being paid.

³ It is probable that the returns underestimated the numbers of persons securing some cash income from specialist activities since not all occasional petty trading and sales of craft products, particularly by women, are likely to have been taken into account. Moreover, there was probably a considerable craft production for

The multifarious and fluctuating character of the supplementary items of income received by the households in such a district from non-agricultural sources makes their computation by means of schedules and standardised estimates difficult. Mr. MacBride himself considered that the total of non-agricultural income from all sources including the earnings of women and children, but not that derived from the sale of livestock, could be reasonably estimated at an average of £2 per able-bodied man, or £64,360 for the entire district with an adult male population of 32,180. This would place non-farm income at rather more than one-third of gross agricultural income including direct and indirect returns on livestock. The output of recorded items¹ in this district may accordingly be estimated as follows:

TABLE XXVII

ESTIMATE OF TOTAL PRODUCTION, DAWAKI TA KUDU DISTRICT, KANO, 1937

<i>Production</i>	<i>Totals for District to nearest £100</i>			<i>Per Adult Male</i>	
	<i>Gross</i>	<i>Less Costs</i>	<i>Net</i>	<i>Gross</i>	<i>Net</i>
	£	£	£	£ s. d.	£ s. d.
1. Dry farm produce ²	168,500	20,000 ³	148,500	5 4 8	4 12 2
2. Irrigated plot produce ⁴ - -	5,900	300 ⁵	5,600	3 8	3 6
3. Total farm produce	174,400	20,300	154,100	5 8 4	4 15 8
4. Sylvan produce -	16,100	—	16,100	10 0	10 0
5. Stock sales - -	9,600	1,600 ⁶	8,000	6 0	5 0
6. Donkey transport -	8,000	1,500	6,500	5 0	4 0
7. Craft, trading and wage labour -	64,400	6,400 ⁷	58,000	2 0 0	1 16 0
8. Household maintenance - -	8,045	—	8,045	5 0	5 0
Total output ⁸ -	£280,545	£29,800	£250,745	£8 14 4	£7 15 8

self-consumption in such categories as matting, building and carpentering. Finally, many men took advantage of opportunities for paid casual labour in the district and in Kano city when the ground-nut crop was marketed.

¹ Information concerning many items of output is not available in the reports, e.g. especially self-produced domestic and farm equipment and repairs. The total refers, therefore, only to the sum of items reported on. On the other hand, the omitted items would not make a significant difference to the value of the true total.

² From a total of c. 150,000 acres.

³ Made up of manure cost of 10 per cent gross value plus seed and other costs.

⁴ From 626 acres.

⁵ Made up of manure cost of 8s. per acre and 1s. per acre other costs = c. £300.

⁶ Deduction for death and deterioration of breeding stock.

⁷ Deduction of 10 per cent for materials, transport and paid labour costs (mainly by wealthier craftsmen and traders).

⁸ Apart from other unrecorded item, no allowance is made for self-supplied domestic services which might be reasonably valued at 10s. per one-man household.

Although little is known of the size of the household farming unit in this district, data for a small sample of farm holdings suggest that it normally includes only one adult male with dependent women and children. The estimated average value of the output per adult male may, therefore, be provisionally taken as the average household income,¹ save that the majority of farming households in the district have no irrigated land. As in Kazaure, a few households have a substantial additional output, which in some cases may be worth several pounds from this source, but for the great majority it does not exist. A considerable proportion of the recorded specialist income was, moreover, received by a minority of skilled craftsmen and traders who received considerably more than the estimated average £2 per annum from this source. However, the census of specialist activities and of the numbers participating was admittedly very incomplete. A secondary income of £1 10s., including the value of donkey transport services, can therefore be reasonably ascribed to the ordinary farming household.

TABLE XXVIII
ESTIMATED ANNUAL NET OUTPUT OF FARMING HOUSE-
HOLD, DAWAKI TA KUDU, 1937

<i>Production</i>	<i>Net Value</i>		
	£	s.	d.
Farm produce - - - - -	4	15	0
Sylvan produce - - - - -		10	0
Livestock sales - - - - -		5	0
Secondary - - - - -	1	10	0
Homestead maintenance - - -		5	0
	£7	5	0

On the other hand, a minority of households will have a more valuable output and correspondingly greater annual incomes from the practice of more lucrative part time specialities or from the produce of irrigated farm plots. On the data available it is not possible to do more than hazard a rough guess at the numbers of prosperous specialists and irrigation farmers. Assuming an average of half an acre per head for irrigation farmers, there will be some 1,250 of them deriving an average income of £4 10s. This will, however, be at the expense of some dry crop production and secondary activity.

¹ General descriptions of economic conditions in the vicinity of Kano indicate that, in the circumstances of very full occupation of the arable land, a farm is usually inherited by one descendant of its former owner, while other sons or younger brothers do not remain in the household. A multiple household containing the families of several adult men could not easily be fed from the produce of these small farms, whose acreage cannot be expanded by taking in more bush; the general tendency is for surplus males to move away to less congested districts or to live by craft or trading in urban centres.

TABLE XXIX

ESTIMATED ANNUAL NET OUTPUT OF FARMING HOUSEHOLD WITH SMALL IRRIGATED PLOT, DAWAKITA KUDU, 1937

<i>Production</i>	<i>Net Value</i>		
	£	s.	d.
Dry crops - - - - -	4	0	0
Irrigation crops - - - - -	4	10	0
Sylvan produce - - - - -		5	0
Livestock - - - - -		5	0
Secondary - - - - -	1	0	0
	£10	0	0

The output of those engaged in the more lucrative secondary activities will, as can be seen from the earlier table, vary considerably from trade to trade. Moreover, the proportion of time devoted to farm production will vary from zero in a few extreme cases to close to the norm for the farming population in general. If we assume that the households of the more highly rewarded specialists produce in other categories about half the normal output of the ordinary farmer, their total net income will range from about £7 10s. to £21 10s.

On the data available no close estimate of the relative value of subsistence and exchange production can be made for the various types of household in this area. Assuming on the basis of acreages that about a third of the crop value is in ground-nuts and that there are small grain surpluses for sale to the Kano market, the ordinary dry farming household will secure a money income of approximately £2 15s., or equal to rather more than a third of the total value of production. This differs comparatively little from the estimate for the ordinary household in remote Kazaure, where exchange production accounted for 38 per cent of the total value of output. On the other hand, since the number of households engaged in the more lucrative form of non-agricultural production is considerably larger, the ordinary farming household is less typical than in Kazaure and a good number of farmer specialists are dependent on exchange production to a far greater extent. Exchange production is likely to represent two-thirds of the output of a farm with a substantial irrigation plot, and from half to over four-fifths of the total production of the households of weavers, traders, butchers and other specialists.

(d) SUBURBAN AREAS

In the immediate vicinity of the large towns, particularly those on the railway which are marketing centres for export products, not only is the ratio of exchange production still higher, but it is still more markedly directed to local consumption as opposed to export to distant areas. The local demand for food supplies, other consumer goods and labour is high

and receives priority over production of export crops, the bulk of which are grown in an outer zone where these more lucrative sources of income are not available. The environs of Kano, a city which had a total population of about 90,000 in 1930, illustrates this condition in probably its most developed form. The zone within five or ten miles in radius from the centre of the city is, for northern Nigeria, very closely settled. The northern part of Dawaki ta Kudu district, discussed in the previous section, merges into this suburban zone where but few of the households depend mainly for their livelihood on the produce of their farms, well cultivated though these are with the frequent addition of refuse from the city and manure from kraaled stock. Donkey transport appears to be the main source of non-agricultural income. In most households there are several donkeys with which, during most of the year, the men can earn from 2s. to 7s. per week per beast in transporting goods in the city. Donkeys are also an indirect source of income since they are used for trading. Part time traders go out to buy corn in the outer districts and carry it in for sale at the higher prices, which include transport costs, in the city markets. Casual labour, especially portering, is also needed by business firms, while there is a considerable market for firewood and for grass used in thatching and bedding stock. From budget data on a 3.75 acre farming household said to be typical of the environs of Kano in 1938, the following values for production can be estimated:

TABLE XXX
ESTIMATED ANNUAL VALUE OF HOUSEHOLD OUTPUT FOR
SUBSISTENCE, EXCHANGE AND EXPORT, TYPICAL OF
ENVIRONS OF KANO, 1938

Area: 3.75 acres.

<i>Production for:</i>	<i>Subsistence</i>			<i>Local Exchange</i>			<i>Export</i>		
	£	s.	d.	£	s.	d.	£	s.	d.
Grain - - - - -	4	13	9						
Peas - - - - -		4	2						
Cassava ¹ - - - - -	1	13	4						
Ground-nuts - - - - -							2	10	0
Total farm produce - -	6	11	3				2	10	0
Homestead maintenance -	5	0							
Goat sales (10 at 3s.) - -				1	0	0	10	0	0 ²
Donkey transport (3 at 1s. per week for 50 weeks) - -				7	10	0			
	£6	16	3	£8	10	0	£3	0	0
<i>Total: £18 6s. 3d.</i>							£11	10	0

¹ Some of the cassava was probably surplus to household needs.

² The 30s. is here somewhat arbitrarily divided into returns from skins destined for export and carcasses for local use.

The high local prices of both grain and ground-nuts as compared with those in more remote areas, such as Kazaure and Misau, must be borne in mind when considering this budget. In this instance, where subsistence production accounted for little more than a third of the total of the £18 6s. 3d. of recorded income, the household was far from self-sufficient in food supplies including those for the stock. Household purchases of grain were estimated at £3 18s.; bran and hay for donkeys and goats at £1 16s. 6d. On the other hand, after allowing for these and for other probable items of expenditure, the value of production in such a household was well above the total cost of living at ordinary standards for the rural population, since a cash balance of several pounds was probably available for additional food and clothing, and for luxuries and savings after basic household needs had been met.¹

(c) REMOTE AREAS LACKING EXPORT CROPS

At the other extreme, in remote areas, particularly those of low fertility, the value, both absolute and relative, of exchange production falls very low. Thus, in the hamlet of Tarke, over twenty miles north of Sokoto, in an area near the French frontier, consisting mainly of poor and already exhausted sandy soils, the production for exchange within the household was almost entirely limited to a very variable millet surplus together with some spun cotton and a few goats.² The balance of money income required to meet cash outlays was secured by temporary migration during the dry season of more than half the men, who go long distances in search of casual labour and often cross the French border. In the dry season of 1939 more than half the adult men were absent from the settlements. Owing in part to the considerable distance from the terminus of the railway and the poor development of road transport and marketing, little was grown for overseas export, although small quantities of cotton and tobacco were raised for export to French territory. The small millet surpluses were disposed of mainly in local markets, some of it perhaps eventually reaching Sokoto and lesser towns in the region.

An assessment report and an agricultural survey of Tarke in 1939 estimated the general level of grain production on the average farm to be as high as 3,000 to 3,500 lb., together with 100 to 200 lb. of cow-peas.³ Local estimates of consumption indicate that more than half of this would be needed to meet the normal food requirements of a small household consisting of one man and his wife without grown children, viz. 1,660 lb.

¹ Report by agricultural officer, Kano, *Agricultural Department News Sheet*, Nigeria, March 1939.

² As throughout most of the light soil country in the north-east relatively little guinea-corn is grown, a small yield is obtained by interplanting it in millet.

³ Shorter and Bond, *op. cit.*

of grain and 130 lb. of cow-peas.¹ The ordinary household would probably require more, but a surplus of 1,000 lb. to 1,500 lb. might be expected in a good year. At average local (mid-season) prices such a surplus would be worth from £1 to £1 10s. The cash return for this surplus was, however, not only smaller than this in practice but very uncertain, because grain prices varied so widely from season to season.² Direct enquiry showed that few households had in fact sufficient reserves of currency or carry-over of grain to be able to wait for the highest price and sold almost all their surplus at the low harvest price. Household grain stocks were usually so short towards the end of the growing season that about a quarter of the crop was generally eaten as, or even before, it became ripe, and the lack of reserves compelled the immediate sale of a good part of the harvest at low prices to meet the tax-payment. The 1939 tax of 4s. 1d. would be equivalent to about 500 lb. of threshed grain at those prices, or 250 lb. at mid-season prices. In addition a tithe of the crop, or some 300 lb. of grain worth 5s. at mid-season prices, was the due of the hamlet head, leaving a surplus of only 500 to 1,000 lb. Wheat, if held for sale at the mid-season price, would yield a cash return of from 8s. to 17s.

The total basic annual needs of a small household valued at £4 1s. includes all food, firewood, which has to be purchased by most households and costs about 9s. a year, and the tax-payment. Apart from women's clothing, and the renewal of farm equipment, from £2 12s. to £3 of this sum could be secured at mid-season prices from the produce of a farm of average size. Of the total value of essential food at local standards of living, estimated at £2 19s., subsistence production would account for about half (52 per cent), so that a further income of about £1 6s. would be required to meet the cost of additional food such as milk and meat.³ No data are available concerning the sums received from migrant labour but it can be assumed that the balance of from £1 to £1 10s. is generally secured in this way.

¹ The data from the survey of Bomo village (Corby, *op. cit.*), where guinea-corn, not millet, was the grain staple, gave as the average consumption only 700 lb. of grain per annum per man equivalent.

² At harvest time, when tax had also to be paid, the price was very low, a bundle of 40 lb. of millet, equivalent to about 20 lb. of grain, fetched only 2d. in the local market, whereas at planting time it could be sold for 6d.

³ Further particulars are given in the section on consumption below (see p. 155).

TABLE XXXI
ANNUAL VALUE OF WAGE LABOUR AND OF HOUSEHOLD
OUTPUT FOR SUBSISTENCE AND SALE, TARKE, SOKOTO
PROVINCE, 1939

	<i>Production for</i>					
	<i>Subsistence</i>			<i>Sale</i>		
	£	s.	d.	£	s.	d.
Farm produce - - -	1	13	6	0	17	0
Homestead maintenance	5	0				
Sale of goat ¹ - - -				3	0	
Spinning - - -				5	0	
Seasonal wage labour -				1	5	0
	£1 13 6			£2 10 0		

Production for exchange considerably exceeds subsistence production, but this results from the need to sell labour power outside the district in order to secure a money income for fixed charges and other basic needs besides food.

This level of production is exceeded by the small minority who own donkeys, and engage in craft, or petty trading, but it appears to represent the general condition of the ordinary native in this remote area of depleted soils and poor resources.

5. LEVELS OF CONSUMPTION

Any attempt to analyse the levels of household consumption characteristic of the northern grain economy is confronted with a scantiness and inadequacy of data even greater than is the case for production. While it is possible to indicate the character and some of the variations of consumption among the northern agricultural communities, there have, until recently, been no attempts at systematic determination of volumes of physical consumption, quite apart from the estimation of the economic value of other services enjoyed. On the other hand, if we assume, as appears to be reasonable for all but a very small and exceptionally prosperous fraction of the population, that very little of the current output of a rural community is invested or hoarded, the levels of production described earlier themselves give some indication of the total volume of consumption. This can be supplemented by such data as exist concerning diets and customary expenditures on clothing, ritual and other personal services, in order to estimate both the relative importance of the various categories and, even more important, their adequacy from both physical and social points of view. The proportion of household production which is directly

¹ Very few goats and sheep are kept, the estimated total number being only 355 goats and 24 sheep or about 1 per 100 adult males.

consumed is, as has been seen, well over half the value of the total output at local prices. It has also been shown that, at the prevalent levels of agricultural technique and standards of consumption, the production of household food supplies takes a very large proportion of the labour available in the farming household.

(a) FOOD

Although they are by no means always realised in practice, the dietetic norms in the northern economy are quite specific. The northern diet is, as will have been realised, overwhelmingly composed of cereal foods of which guinea-corn and millets form the greater bulk. Guinea-corn is the preferred cereal and it is only in areas of greater aridity and light soil that millets take precedence over it in farm acreage and in the diet of the people. To a very large extent these various grains are interchangeable in preparing the standard dishes of the rural population.¹ It should be noted that in the preparation of nearly all these dishes, grain, from which the bran (*dusa*) has been removed, is regularly used. This removal of the bran or pericarp, which of course detracts from the nutritional value of the diet, is deliberately done, not only because the bran can be put to valuable use in feeding goats, but because it is held both to spoil the flavour of the food and to cause intestinal disorders. The only non-grain dishes which form a regular part of the standard diet are a vegetable soup (*miya*), made from whatever ingredients are to hand and sour milk (*nono*).²

While the other food items are normally produced by a farming household, sour milk, which is regarded as a standard daily element in the diet, can be secured only by exchange, being obtained either in local markets or directly from Fulani herdsmen in the locality. Meat and salt are also

¹ The main meal of the day, which is generally eaten in the evening, consists of a thick pudding of guinea-corn or millet known as *tuwo*, sometimes flavoured with salt and the juice from cooked dates or other fruit. Although it is accompanied where possible by vegetable broth (*miya*), *tuwo* is the main dish. For the morning meal at about 10 or 11 a.m., grain is usually eaten in the form of flour-paste balls (*fiwa*) for which any grain may be used, together with sour milk (*nono*) when available. Other common dishes are a thin porridge of grain flour (*kunu*) for which bulrush millet is preferred, a beverage made from washed flour (*koko*), which is almost pure grain starch, and a paste made from millet grain mixed with sour milk.

² Beans and cow-peas figure prominently so long as supplies hold out, and cultivated okra (*Hibiscus esculentis*, Hausa; *Kubewa*) is also used; but in a great measure they consist of wild collected vegetables, fruits and leaves such as locust-beans which have been converted into fermented cakes (*daddawa*) which can be stored, or similar cakes of monkey bread seeds (*Adonsonia digitata*), leaves of senna (*Cassia toro*), silk cotton (*Enodendron orientale*), and 'spinach' (*Amaranthus caudatus*). This *miya* is cooked with ground-nut oil and flavoured with native salt (*kanwa*) and peppers. A richer stew known as *tabshe*, generally available only to the well-to-do, is made with cultivated vegetables including onions, pumpkins, red sorrel (*Hibiscus sabdariffa*) as well as meat cooked in butter or palm-oil.

obtainable only by purchase. The former is, however, not a regular element of the diet of the ordinary farming household; apart from occasional festivals and domestic ceremonies, meat is only purchased from time to time as funds permit, being sometimes used to improve the soup (*miya*); but it is also bought cooked on skewers in the market and then, as a rule, eaten on the spot.¹

In a report on diets among the Hausa and urban Fulani aristocracy in the Sokoto area, Dr. W. E. McCulloch emphasised the contrast between the diets of the great majority of the population both rural and urban and that characteristic of the small well-to-do minority, particularly the Fulani aristocracy, who regularly take as many as four meals a day including a rich stew containing fair amounts of meat for the evening meal after sundown.²

In composition the outstanding features of the diet of the majority of the population are the overwhelming predominance of guinea-corn and millets (from which, moreover, the bran has been generally removed) and the very low consumption of foods rich in high quality protein. Not only is the consumption of meat negligible, but the intake of vegetable foods rich in protein, such as cow-peas and beans, is also low. The consumption of 'protective foods' containing the vitamins and mineral salts necessary for health, growth and fertility is also, with the exception of ground-nut oil, a

¹ A recent detailed study of the expenditures and diets in the households of a few Hausa labourers at Jos is useful, in the absence of precise data on samples of the rural population, although the fact that all food had to be purchased in a town market affects the proportions of the different elements in the diet as well as the prices. The average daily consumption of an adult per day, on the basis of these data, was:

	Grain	Meat	Oil	Leaves and Vegetables	Other
Case B.	1 lb. 12 oz.	2½ oz.	1½ oz.	2½ oz.	1 lb. 13 oz.
Case S.	1 „ 4 „	3 „	1½ „	2 „	1 „ 13½ „

This diet is deficient in minerals, vitamins and high grade protein. While rather more meat was consumed than appears to be characteristic of the rural population, the amount was small and no milk was consumed. The cost of food and firewood consumed the entire weekly earnings of the household head, viz.:

	Weekly Wages		Food		Firewood		Total
	s.	d.	s.	d.	s.	d.	s. d.
Case B.	4	8	3	1½	1	2	4 3½
Case S.	4	6	3	5	1	2	4 7

It was estimated that, at their current prices, the cost of an adequate daily diet, including beans but not meat, and excluding the cost of firewood and cooking, was 2½d. per adult per day, or 4s. 4½d. per week for a household including a man, wife and two children. The current wages of 4d. to 6d. per day for regular labour were thus insufficient to provide an adequate diet for a small household. Data supplied to Dr. M. Fortes at Jos, 1941.

² McCulloch, W. E., M.D., 'An Enquiry into the Dietsaries of the Hausas and Town Fulani', *West African Medical Journal*, v. 3: 8-22, 62-73, 1929-30.

standard ingredient of the vegetable soup (*miya*), below the desirable minimum.¹

Not only the variety and quality, but also the bulk of food consumed varied very greatly according to means. Although the use of labour and time and the consequent production of a rural household are largely directed towards self-sufficiency in food supplies, the hazards of cultivation are such that outputs may fall far below bare needs in any one year. Moreover, the need for cash to meet tax and debts, to obtain other goods, such as new clothing and minor luxuries like tobacco, means that a substantial proportion of the household output, whether it be in locally consumable food supplies or in exportable cash crops, will, in fact, be disposed of by sale or barter.

The limited information available suggests that, save in a few areas where definite links with an urban or other corn importing market have been established, the rural household in the north produces at best only a small surplus of food crops beyond its own needs for the ensuing year. Even when surpluses are produced, they, like the cash crops, are sold without delay in order to secure money and are not held as an insurance against crop failure in the following agricultural year.

Since estimates have been made of total outputs of food and other domestically produced supplies and of the amount of these which is disposed of by exchange, it should be possible to reach an approximate assessment of actual consumptions of products on the farm. As the food supply of these peoples is made up so very largely of guinea-corn and millet, the consumption of these grains affords an index, applicable to all but the very few rich men, of the relative abundance of food. But accurate calculation of grain consumptions is beset with difficulties, while even estimates based on farm outputs are rendered precarious, since the volume of threshed grain is often not directly known. It has, as a rule, to be estimated from the number of bundles of unthreshed grain on the ear, the weights and threshing percentages of which can only be roughly assessed. The few data which are available on actual household consumption together with the more general estimates of household grain consumptions made by agricultural officers and others in recent years, some of which have been referred to in earlier sections, may be tabulated as follows:

¹ In the towns, palm-oil imported from the south is often used instead of ground-nut oil. Although animal products are important from all these points of view, it is necessary to remember that a substantial meat consumption is not indispensable to an adequate diet. On this and the opportunities for securing high-grade protein and other elements from vegetable sources; see Culwick, G. M., 'Nutrition in East Africa,' *Africa*, v. 14: 401-410, 1944.

TABLE XXXII
SAMPLE ESTIMATES OF HOUSEHOLD CONSUMPTIONS OF
GRAIN, NORTHERN PROVINCES, 1937-40

Place and Year	Household Composition				Grain Consump- tion (lb.)			Remarks
	Active Men	Adult Women	Aged	Chil- dren	'Adult Units'	Ann. Total	per day per adult unit ¹	
Misau, N. Bauchi Province, 1939.	1	2	1	1	4	2,824	1.93	A prosperous household selling ground-nuts and cane. Farm of 6.7 acres.
Dan Goro, Kano, 1939.	1	2	-	7	6.5	4,680	1.97	Farming household with occ. paid labour.
"	1	1	-	2	3	1,680	1.5	A non-farming wage- labourer's household, cash income 15s. per month (poor).
"	3	1	-	4	6	2,880	1.3	Non-farming household of a petty government servant with salary of 30s. per month.
"	2	2	-	2	5	7,200	3.94	Non-farming household of a petty government servant with salary of 50s. per month. <i>N.B.</i> — Considerable amounts of grain were used in entertaining others.
Daura Emirate, 1939.	2	1	-	2	4	5,580	3.8	Main occupations of household heads not specified; probably farming.
	1	2	-	2	4	6,480	4.4	
	1	1	-	4	4	5,040	3.5	
Zaria Province, 1939	1	2	-	2	4	5,400	3.7	Farming households ac- cording to general esti- mate of Agric. Dept., 1939.
N.E. Zaria Province, 1937.	1	1	-	1	2.5	1,690	1.85	Local estimates of basic needs of an 'ordinary' rural household, ac- cording to Giles.
Bomo, Zaria Province, 1939-40.	-	-	-	-	-	-	1.75	General estimate per 'adult unit'; see p. 124, n. 1.
Tarke	1	1	-	0	2	1,664	2.3	'Average' household.
Sokoto Province, 1939.	1	1	-	0	2	2,704	3.7	Richer household. Esti- mates for man and wife alone.

Many of the variations between these estimates of grain consumption are likely to be due to the very approximate methods available for estimation and they certainly cannot be used to infer differences in levels of consumption in the areas to which they refer.¹ On the other hand, there is every indication that the levels of grain consumption vary considerably

¹ It has frequently been claimed that the development of markets for export crops has had the effect of reducing grain production for subsistence to a dangerously low level in many areas and that serious shortages of food supplies have followed in years of poor harvest. Adequate data on this point are not at present available.

from household to household and from year to year according to the output of farms and the funds available for supplementary purchases. At the same time, quantities as great as 4 lb. per adult per day probably include a significant proportion used for entertaining guests by the more prosperous household heads. It is, therefore, reasonable to assume that the consumption of threshed grain per adult unit ranges from 500 lb. to 1,000 lb. per annum, or 1.5 to 3 lb. per day.

Consumption is, however, by no means steady throughout the year. A characteristic weakness of the native economy is the almost regular occurrence of a period of shortage during the latter part of the farming season at least among all but the most prosperous households. While the purchase of grain on credit makes it frequently possible to alleviate the shortage at the expense of future standards of living, it appears unlikely, from the indications of the amount of grain normally borrowed and the high interest involved, that the grain consumption is normally adequate at this period of the year.

Although overwhelmingly predominant, from both the economic and the nutritional point of view, grain consumption does not, of course, cover the entire food supply of even the poorest households. As has been seen, however, most of the other items, of which the most important both dietetically and in money value are beans, cow-peas and green vegetables, such as okra and wild fruits, are either produced on the farm or collected from the bush. The absence of any indication of traffic in these foodstuffs suggests that surpluses are very rarely produced. The estimated outputs of these secondary foodstuffs may, therefore, be taken to indicate the levels of household consumption.

There are few data on the quantities and prices which may be taken as norms for the consumption of purchased foods. The annual cost of minimum salt requirements for the household of a man with one wife and two children would, at normal local market prices, be from 3 to 4 shillings. On sour milk an outlay of $\frac{1}{4}$ d. per day was frequently mentioned as typical for a household of ordinary size. In other words, where means permit, a rural household would expend about 15s. per year on sour milk. However, such an outlay is by no means always possible, first, because there may be for a considerable part of the year no milch cattle in the neighbourhood and secondly, the means of purchase by cash or barter may fail.

Expenditures on meat can be reasonably assessed at one ram per household for festival or other ceremonial purposes together with perhaps 6d. per month for occasional purchases of small amounts of dried or cooked meat, representing in all an outlay of about 10s. a year. Save in a few riverine areas, fish is not a part of the regular diet of the rural population. Sweetmeats and sticks of sugar-cane are purchased in the local markets when funds are available, but probably only a shilling or two is spent in each household.

The data from Tarke, where the standard of living was low, indicated that a cash income of £1 6s. 2d. was required to meet the annual cost of food other than supplies grown on the farm.¹ The estimated cost of the various items, based on an enquiry covering 70 households was:

	s.	d.
Meat at 4½d. per month - - -	4	6
Milk at 2½d. per week - - -	10	10
Salt - - - - -	2	7
Baobab leaves and locust beans - -	2	7
Miscellaneous - - - - -	5	8
	£1	6 2

(b) CLOTHING AND OTHER PERSONAL EXPENDITURE

Expenditure on clothing is very variable. It is frequently reported that it increases very considerably in prosperous times and also that, in disposing of available cash income, it comes first in native estimation after essential food supplies and the payment of tax. With increased personal prosperity, large sums are spent on embroidered garments. Unlike the southern people and hill pagans, Moslem men wear voluminous gowns and cotton trousers and consider slippers and a cap essential items of attire. The provision of clothing is regarded as justifying a loan, but the mass of the population appears to have difficulty in achieving the basic native standard of one new set of clothing every year. The actual costs will, of course, vary according to quality and differences in local prices, but the minimum annual outlay to meet the basic needs of a small household will range from 10s. to £1. In Tarke, for example, the annual expenditure, regarded as a minimum for a man, appears to have been 6s. 2d.² No data were given for women and children, but a minimum of four small cloths for a woman with two children would have cost 6s. It is, on the other hand, reported that the ordinary farmer in the vicinity of Kano does not consider it necessary to replace every year his gown and trousers which he wears only occasionally. Nevertheless, the cost of shirts and loin cloth which are regarded as essential, amounts to 6s. 2d., so that essential expenditure to meet local standards is at least as high as elsewhere and the outlay is considerably higher wherever means permit.

The two universal luxuries are kola and tobacco, but the average amounts consumed are difficult to assess. When funds are available men will spend from ½d. to 1d. a week on tobacco snuff, or from 2s. to 4s. in a year. In Tarke, a typical annual expenditure on tobacco was 3s. The outlay on kola is probably greater, although no direct information is available. The purchase of 200 nuts in a year would amount to from 3s. to 10s.

¹ Shorter and Bond, *op. cit.*

² i.e. for 1 gown (second-hand) at 3s. 3d., 1 pair of trousers at 1s. 1½d., 1 cloth at 1s. 6d., 1 cap at 1½d., 1 pair of shoes at 2d.

A considerable variety of personal services, ranging from barbering and drumming at festivals to the performing of a circumcision or the treatment of sickness, are required from time to time in every household. Although outlays on these are not a constant element in household consumption, some of them will be needed every year. A minimum of one or two shillings appears to be spent in this way.

The sum required for purchases to meet the minimum needs of a household amounts to a total of about £2 per annum, while to satisfy the native norms of consumption more fully an expenditure of at least £3 per household would appear to be necessary. The budget of a relatively prosperous household in Misau district, Bauchi province, included purchased supplies to the value of £2 18s. 10d., of which 17s. 4d. was for milk and meat, £1 6s. for salt, peppers and other relishes and 15s. 6d. for clothing. There were almost certainly further payments for unrecorded items, including personal and ceremonial services.

The composition and total value of the basic annual consumption of a small rural household, apart from domestic services provided from within it, can be summarised as follows:

TABLE XXXIII

ESTIMATED VALUES OF ANNUAL CONSUMPTION OF A
RURAL HOUSEHOLD, NORTHERN PROVINCES, 1939

Composition of household: 1 man, 1 wife, 2 children.

	<i>Home Produced</i>			<i>Purchased</i>		
<i>Foodstuffs:</i>	£	s.	d.	£	s.	d.
Grain - - - - -	2	10	0			
Secondary food crops - - -		10	0			
Wild fruits and vegetables -		5	0			
Sour milk - - - - -				10	0	
Meat - - - - -				7	0	
Sweetmeats - - - - -				2	0	
Salt - - - - -				4	0	
Firewood - - - - -	5	0				
Tobacco - - - - -				3	0	
Kola - - - - -				5	0	
<i>Clothing:</i>						
1 man's gown, trousers, breech cloth cap and shoes - -				8	0	
1 woman's body and head cloth - -				3	0	
2 children's clothing - -				1	0	
<i>Homestead maintenance and utensils</i> -	5	0		5	0	
<i>Essential services:</i>						
Drumming, barbering, cures, circumcision, etc. - -				5	0	
Total - - - - -	£3 15	0		£2 13	0	
				= £6 8s. od.		

Of the whole consumption, valued at approximately £6 10s., about 60 per cent consists of subsistence production and 40 per cent is secured from the proceeds of exchange.¹

Except in the immediate vicinity of Kano and perhaps of a few other large centres of population and market activity such as Zaria, the levels of consumption in recent years have been very low. The data on production and the returns on crops, craft activity and labour suggest that the incomes available to the ordinary rural household have been barely sufficient in a year of reasonably good crops to support the native norms of consumption, which are themselves very modest and, so far as food is concerned, are probably physiologically inadequate.

The need to secure a sufficient cash income to meet tax-payments and allow for customary native expenditure frequently leads to immediate sales of produce at the lowest prices and even to failure to maintain a sufficient reserve of grain for food supplies from one harvest to the next. The high rate of interest on borrowed corn reduces the amount which can safely be borrowed when reserves are exhausted and, at the same time, makes serious inroads on future income. All this reacts unfavourably on the level of food consumption.

Although a small minority of the population engaged in full time specialist activities enjoys a cash income which enables the local norms of consumption to be met without difficulty, the outstanding conclusion from these investigations is that the ordinary farming household in northern Nigeria is at present unable to count on obtaining an adequate supply of the essential items of the traditional native diet. Even in a good farming year, resources are often insufficient for the purchase of other needs including clothing, small luxuries and personal services. In considering improvement in the standard of living in the northern grain economy, it is very obvious that any means which will increase and improve the quality of the household output of domestically consumed supplies are of paramount importance. At the same time if there is a substantial increase in the returns on cash crops, a sufficient margin of cash income will be more generally available to purchase supplementary food supplies, and to meet the very great latent demand for clothing. As will be seen below, there is both the need and the opportunity to provide the rural population with more meat and milk either by domestic production or through exchange. At recent prices the ordinary farming household which was self-sufficient in grain and vegetables could, with a cash income of about £3 available for household expenditure, meet the

¹ This calculation does not, however, include or assign any value to the services received from public authorities either the native administrations or the Government of Nigeria. The corresponding obligatory payment of tax—7s. 3d. in the year—will obviously affect both the level of total production and the proportion of the total production which is disposed of.

customary standards of consumption in supplementary foodstuffs, clothing, luxuries and personal services. Such a level of income has not been generally reached, and the annual tax-payment constitutes a very heavy reduction in the cash income actually available for such expenditure.

6. WEALTH, POVERTY AND DEBT

The emphasis on typical levels of household production and consumption in the preceding sections may have conveyed a false impression of uniformity. Although the differences which exist between the ordinary farming household and that in which one or more members is engaged in one of the more lucrative specialities have been indicated, it is also necessary to emphasise that within the households exhibiting particular combinations of economic activities, there may be wide differences in the household output and income, particularly near the larger towns and markets.

No detailed accounts of the economic activities of the few 'rich men' who are to be found in many communities are available, but the general character of their economic eminence can be indicated. In the first place, it should be emphasised that the 'rich man' in northern rural communities is not, as in some primitive economies, a recognised trustee of resources on which the community at large has traditional claims. His wealth is personal in the sense that we understand it. The wealth of rich households depends on the personal control by its head of exceptional land, capital and labour resources together, in some cases, with a business organisation, all of which he can very largely dispose of as he thinks fit.

Prominent among such prosperous household heads are village and district headmen and traders. The district headman is the successor and often the descendant of the local fief-holder who, before British reorganisation of the native emirates, derived an income from a share of the local taxation. To-day, he is in receipt of a salary which, together with his prestige and personal land rights, may enable him to maintain a large and exceptionally productive farm with the aid of dependants. He may also engage in trade and provide credits which still further increase his resources.¹

While some traders have farms which are smaller than the average, because they have to be worked with a labour force smaller than in a normal household, others, whose trading activities are very considerable, also have exceptionally large farms. By the attractive force of their prosperity a group may be built up consisting of ex-slaves, kinsmen, adopted strangers and hired labourers.

It appears that apart from the hereditary nobility of an emirate, large and exceptionally productive household units are to-day nearly always

¹ For a fuller account of the rights and status of the large landholder and his quasi-feudal position see the later chapter on the economics of the middle belt based on a recent study of Bida emirate.

based on a combination of trading, or more rarely craft, with farming and are particularly associated with such enterprises as grain trading or master butchering. But it may be found on investigation that there are large and, on account of greater efficiency, comparatively prosperous units among the farming households proper. The heads of such households usually possess several donkeys, indeed a small troop may be essential to a large-scale grain seller, and often one or more horses. The head and his dependants, including the women, will probably own many goats, while a substantial part of the unexpended profits which accrue to the household head are frequently invested in cattle. These are often put in the charge of Fulani herdsmen who share the products on a basis of partnership.

The statements of informed natives, such as the minor officials of the agricultural service, suggest that these wealthy men derive a considerable income from the provision of supplies and funds on credit to their less fortunate neighbours. Indebtedness among the rural population appears to be widespread, but it is on a small scale and generally short-term in character. Loans are often obtained by needy farmers from their wealthier neighbours to secure essential supplies, especially of food in the 'hungry period' immediately before the harvest. Generally such debts appear to be paid off within the year, but interest is said to run as high as 50 per cent. When, for example, grain borrowed before the harvest comes to be paid back after the harvest, half as many baskets again are required for settlement of the debt. By making loans in kind and especially of grain in times of shortage, the rich farmer or grain dealer provides a reservoir of food supplies for the community as a whole, but his economic relation to the community is very different from that of the pagan chief, from whose granaries his dependent kinsmen are fed when their personal bins have been emptied.

According to Moslem law, a lender may not make any profit on the repayment of articles of the same kind as those lent. Interest is therefore illegal. Moreover, on the ground that contracts must be determined in every particular at the outset, it is illegal to sell goods on credit at a higher price than that demanded for a cash sale. These legal restrictions are, however, as in other Moslem countries, commonly circumvented in various ways in the Moslem area of northern Nigeria and the evasions include both legally accepted devices and private agreements to evade the law. When, for example, cash-payment for certain goods is neither considered nor specified, the price at which the goods are actually purchased on credit may be legally accepted as the determined price, no matter when the payment is made.¹ On the other hand, the very frequent receipts of

¹ In Zaria province, for example, the judges who administer the Koranic law, admit as a valid transaction the sale on credit by a money lender of an article such as a gown, actually obtainable for say 7s. cash, for 10s. This the buyer proceeds to sell for 7s. in order to secure that amount of cash and eventually repays the 'seller' the agreed price of 10s.

corn by borrowers, who undertake to repay specified larger quantities at a later date, are violations of the law which the borrowers do not question, since repudiation of the terms, and recourse to law would deprive them of an opportunity of borrowing again.

A vivid picture of the circumstances and extent of rural indebtedness in the north-eastern districts of Zaria province is available in the report by Mr. Giles, referred to earlier, based on a survey in 1937. This study suggests that, while small-scale indebtedness is very widespread, it has not and may not, so long as the present conditions and conventions prevail, become a heavy burden on the mass of the rural population. In the first place, there are fairly strict conventional limits to the purposes for which loans are sought and given. Secondly, the interest is a fixed sum which is agreed when the loan is taken up and, although it may be heavy, it does not increase however long the debt is outstanding. Finally, since the Moslem law is substantially enforced by the native courts, and since the borrower's assets are so limited and local sentiment is so strongly against distraint on a debtor, there is no effective way of enforcing the repayment of even the capital of a loan.

As the land on which the rural population so generally depends for its production is not legally the personal property of the occupier, it cannot be distrained upon. The abundance of land is in itself a check upon extortionate usury as, even in the few congested areas, a harassed debtor could always migrate to a new area. Moreover, the legal prohibition on loans at interest makes the lender more willing to reduce the interest on the loan or to extend its currency in the hope of ultimately receiving some interest, rather than lose both interest and 10 per cent of the capital in fees as the result of even a successful court action.

The extent of indebtedness and the value of credit are further restricted by cultural factors. The Zaria area appears to be typical in that a fairly sharp distinction is made between 'necessary' and other expenditures. Lenders as well as borrowers apply this standard, for the very desire to borrow for an 'unnecessary' purpose calls the reliability of a would-be debtor in question. 'Necessary' debts are held to take priority over others, whose repayment is correspondingly more uncertain. In this area, where there are neither creditors with large resources nor a tradition of adventuring in trading or craft with borrowed capital, there is aversion on both sides to giving or taking loan unless the need is urgent and socially recognised. These recognised needs are, firstly, for grain to tide over till harvest time or to plant the new season's crops, secondly, to meet tax-payments, especially when these are due before the cash crop is ready for harvesting, and finally, to make marriage payments or meet other customary outlays associated with domestic ceremonies or the annual public festivals. Borrowing is also resorted to for litigation, including the giving of bribes. The great majority of farmers in this district were believed to borrow for

these purposes at one time or another, but very few borrow to meet any other needs. This attitude has two aspects. While serving to some extent to restrict loans and so reduce total indebtedness, it retards economic development by inhibiting the raising of working capital by loans. In particular, loans do not appear to be sought to improve the equipment or land of the farm. Even the seeking of small loans for such purposes as manuring farmland, or hiring labour to expand the area and productivity of a farm, are held to be 'unnecessary' and not worth the risk by either creditor or debtor. The fact that ceremonial expenditures are held to be 'necessary' points to the danger of an increase in non-productive borrowing with a rising standard of living. In many West African communities, including parts of the Gold Coast, prescribed ostentatious expenditure of this kind is already responsible for crippling indebtedness.

Many loans are obtained from wives and friends, others from more prosperous farmers or from traders who regularly make loans in kind or cash. Advances can also be secured on cash crops from the agents of trading firms who wish to secure a lien on the crop. Apart from these crop advances which here are interest free, the rate of interest is nearly always high but the loans are, theoretically at least, almost all for short term. Wives, who by spinning and trading have small reserves of cash, may make loans free of interest to their husbands. But this is often done with a show of reluctance and in the expectation of a present of cloth upon repayment.

Guinea-corn is almost the only food staple of which supplies can be regularly borrowed in this area.¹ Locust and caterpillar plagues or sickness may force a farming household to depend almost entirely for a time on purchased grain, quite apart from any improvident sales. While during the dry season enough can usually be earned by paid labour to buy sufficient corn for bare subsistence, grain cannot be obtained in this way during the early farming season when labour must be devoted to preparing the farm for another season. Corn, up to some five or occasionally ten bundles, must then be borrowed against repayment either in kind or cash at the next guinea-corn harvest four to six months later. Only wives or, if the borrower is really destitute, his close relatives will lend corn interest free at such a time. The usual rate of loans from others is one bundle for two to be repaid at harvest time, or, more generously, two bundles for three.²

¹ It has a much higher market value than millets, which are also grown in less quantity and not stored for any length of time, so that surpluses for disposal are rarely available. If a farmer sells any of his food reserves to meet an urgent need, it will be his guinea-corn.

² Where repayment is in cash, the terms are about five bundles, worth a shilling, to be repaid at 1s. 6d. to 2s. in cash. While rates occasionally rise to a threefold payment of the original loan, a would-be borrower who offered such terms, would, unless supplies were very short and his need great, be suspected of not intending to repay and the bargain would accordingly be refused. While, owing to seasonal

Despite the fact that borrowing corn at these high rates often means that the farmer may be even shorter in the ensuing farming year, there appears to be a general preference for what is recognised as an injurious transaction to the alternative which is sometimes available, namely of working on other men's farms during the farming season. The latter is felt to be a shameful sign of distress and, if undertaken at all, is generally done in another village. Moreover, the needs for labour on a man's own farm are at their maximum at this time and on this labour will depend his own harvest and later income. Such labour is also said to be very poorly paid, money or corn to the value of 3d. per day being a good reward.

No close estimate of the extent of corn borrowing in north-eastern Zaria was made.¹ But it was sufficiently general to indicate that, with abundant land and reasonable fertility, a very considerable proportion of farming households fail to produce crops sufficient to build up reserves of the food staple to meet their regular subsistence needs. There is obvious need for increasing the general level of grain output to render the basic subsistence production more secure. Locust control and technical development, which will give greater protection against drought and other climatic variations, could clearly contribute; but, since the land is, in the area under consideration and over a great part of northern Nigeria, by no means fully utilised by existing methods of cultivation, there is also an obvious opportunity for raising the levels of farming output by increasing the acreage under cultivation. The technical means for this advance are to hand in the various forms of mixed farming devised by the Agricultural Department in northern Nigeria, which are discussed below in considering the future development of the northern economy.

Apart from corn borrowing, much of which is quite small in scale, the most general and substantial of the 'necessary' loans are sought to obtain, or make up, the sum required to provide the marriage payments for a change in grain prices, a man who repays five bundles borrowed in the farming season by 8 or 10 lb. bundles at harvest time is in terms of cash values repaying only what he has borrowed, this is not the locally accepted view; nor is it put forward by either party to a transaction. Bundle for bundle is acknowledged to the standard set by law, and any excess is recognised as illicit interest.

¹ Native statements suggested that as many as three men in ten borrowed in some communities. Mr. Giles himself thought such an estimate exaggerated save under conditions of special difficulty, such as a locust plague. Estimates of frequency of particular corn loans probably tend to exaggerate net deficiency of both the individual households and still more of any given locality. In the first place, a large proportion of the smaller corn loans are made by women and some of these loans are from wives to their own husbands. To this extent, therefore, household units as a whole, including all the output of wives, are less deficient in corn than the incidence of corn borrowing would suggest. Secondly, so far as a given community or district is concerned, it would seem that the surpluses produced by a few of the larger and more prosperous households are normally sufficient to offset the deficits in others. In other words, a great part of the traffic in corn may be an intra-village or at least an intra-district affair.

son or, less often, for the borrower himself when taking a new wife. There is a local saying: 'For food and for your boy's marriage you borrow without hesitation or patience; an unmarried son in the compound is a horse which has not been tethered.'¹ Smaller loans are also held 'necessary' for customary ceremonials of which the most important are the two annual Moslem festivals. As these fall a few weeks earlier each year they occur at varying times in relation to the farm calendar and one or other may fall at a time when the farmer has no funds or exchangeable produce on hand.

By no means the least frequent and onerous of the 'necessary' loans are those made to raise the annual tax-payment for which the householder and perhaps his adult, but dependent, son have been assessed. So 'necessary' is the securing of funds for tax-payment that it is usually accepted that debts to be repaid at harvest will not, in fact, be met until the tax money has been paid or set aside. However, especially when the tax is payable before the cash crops have been harvested, a common way of raising tax money has been to secure an advance from a produce buyer. In north-eastern Zaria, cotton is the universal and dominant cash crop. It is, in theory, bought up by licensed middlemen or sold to licensed buyers at controlled cotton markets; but there are also many amateur middlemen, particularly among hamlet and district heads. Despite regulations which attempt to prevent the system of advances and the consequent pledging of the crop, towards which the grower is said to become indifferent after his loans have been obtained, it appears to be almost universal for farmers to take advances on their cotton from middlemen and buyers, which are repaid by deductions from the price of cotton when it is eventually sold to the buyer who gave the advance.²

The general absence of credit sought or given for purposes of enterprise is a conspicuous feature. The shortness of the dry season interlude in farming activities, as compared with districts further to the north, is said to be an important factor in reducing trade enterprise. A limited amount of bulk cloth buying at trading 'canteens' for resale in district markets seems to be the most that a Zaria farmer, who engages in part time trade is prepared to undertake. A few butchers and wealthy farmers make stock trading

¹ Marriage payments, including the various customary gifts and entertainments as well as the *sadaki* proper, range in this district from 15s. for a poor man's son to about 60s. for the sons of the richer farmers, traders and village heads. In this area more men than not have recourse to loans to make up the agreed amount, ten shillings being the kind of sum that it is considered reasonable to borrow and the loan often takes the form of handing over for sale a gown worth 10s. which has to be paid for later at 15s.

² The buyers appear to expect that they will fail to recover some 20 per cent of their advances in any one season, while in a year of serious crop failure or slumped prices they may have a heavy load of bad debts on their hands. The trading firms are the chief source of advances, but their clerks also employ their own savings, for they are paid by commission on the amount of cotton they buy for their firm.

trips, but if they need funds beyond their own resources for this, they usually make an agreement with a dormant partner who is willing to contribute to the financing of the purchases in return for a share of the profits. This practice, known as *kiralu*, is permitted by Moslem law.

It should, however, be pointed out that the people of north-eastern Zaria themselves contrast their limited commercial initiative and reluctance to make and receive loans for productive purposes with the practice of the people in the Kano area, whose enterprise they regard with admiration and envy. This picture of rural credit and the extent of indebtedness, while probably typical for most of those parts of northern Nigeria which have good access to a large market and regularly produce an export cash crop, cannot be taken as applying to the closely settled and more economically advanced area around Kano city.

7. FUTURE DEVELOPMENT

The need for raising the levels of output among the rural population of northern Nigeria is abundantly clear. The release of a larger proportion of the labour effort from food production and an increase in the output and value of marketable crops are essential for raising levels of consumption through internal production and exports. The more efficient production of the subsistence element of household needs would release energy both for the production of other goods locally required and for an increased output of exportable products.

The Agricultural Department has, after a considerable period of trial, developed practicable systems of improved cultivation known as 'mixed farming', a term which it applies to the introduction of cattle into the farm economy. The objects are to increase the amount of manure and at the same time to provide animal power for ploughing and other farm work, whereby the acreage farmed by one household can be greatly increased. This development has depended, first, on finding a practical means of adapting the traditional farming methods, secondly, on providing improved conditions for stock (the reduction of the high mortality from epidemic disease being most important) and, finally, on providing the cultivators with a means of acquiring the new equipment and training in its use. It must be remembered that the northern cultivator had hitherto been entirely divorced from the care of cattle, which were exclusively in Fulani hands. The task of training farmers in the care and management of stock is not, therefore, to be underestimated. This has indeed been one of the reasons for emphasising the need for constant supervision at the outset, although it would inevitably slow down the pace of development. By 1930, after experiments over some six years and when the inoculation of cattle against rinderpest and trypanosomiasis had been proved effective, the introduction of the basic system began. It has since

been found that when equipped with two working bullocks, a plough and a cultivator, a single household with two male workers could maintain from 8 to 10 acres in cultivation. The tops and stalks of the crops, together with some accessible bush grazing, would suffice as a maintenance ration for the cattle, while, during their working periods, supplies of guinea-corn, bran, cottonseed, etc., could be provided off the farm. A pair of bullocks, when properly but simply penned, provide 5 tons of manure per annum, which is adequate for rotational manuring of $2\frac{1}{2}$ acres every year, since amounts which are negligible by European standards produce great increases in yield from tropical soils.¹

For the provision of the initial equipment, including the cattle and simple implements designed or selected by the Agricultural Department and for later acquisition of additional equipment a system of hire purchase, which circumvents the Moslem ban on loans at interest, has been devised and is operated by the native authority of each area. As the adoption of mixed farming spreads, co-operative organisations, financed by *ad hoc* loans at low interest rates, may be necessary to provide the larger funds necessary and to release European officials from the labour of accountancy. In recent years, during the early stages, selected animals have been provided by the Agricultural Department at prices ranging from £1 10s. to £2 10s. per beast. Locally made, light wooden ploughs have been supplied for less than £1, while a more efficient and durable light iron plough, which is proving very popular, costs rather more and has so far had to be imported. With fuller development, communities engaged in mixed farming will be encouraged to breed their own stock for replacements and sales to other farmers. If the system continues to be economically successful, the farmer will be able to build up a small capital reserve for replacements and additions to his implements from year to year.

Mixed farming has been introduced and subsidised in its early stages not only by the capital advances but by the services of Agricultural Department officials, in order to raise the level of ordinary household farming and not in order to produce a separate class of large farmers. In order that pioneers among the native farmers should not develop into a small capitalist class, employing the labour of others on large farms at the ex-

¹ Two tons to the acre have been shown to give increases up to 100 per cent in guinea-corn yields, hence the view expressed by Mr. Faulkner, a former Director of Agriculture, that 'where the effect of manure is so great it is clearly [possible] that the way to make the land feed two men where it fed one before is first to make it feed one cow where it fed none before'. A further development of mixed farming technique has taken place in one of the areas where herds of Fulani cattle are available over the greater part of the year. At Maigana in Zaria province, settled Fulani who also practice agriculture, as well as some well-to-do and progressive Hausa who have followed their lead, have increased their manured area beyond that possible with their penned working beasts by a system of intensive folding of beasts on farm plots amounting to 20 acres or more.

peruse of a widespread development of improved small-scale farming, it is planned to apply a graduated form of taxation whereby larger units will be more heavily taxed.

The results achieved at an early stage can be illustrated from a small group in Bomo village which had the advantage of lying close to the Agricultural Department's station in Zaria. The production of its hand-cultivating neighbours was considered earlier. The average area in actual cultivation for 22 mixed farmers in 1939-40 was 15.5 acres as compared with an average of 7.4 acres for 5 hand farmers. The range was from 5.2 to 29.6 acres, but some of the smaller farms were in the hands of beginners. The average cropping of the land was 11.2 acres of food crops and 4.3 acres of cash crops, mainly cotton. The average stock of the mixed farmers included 2 oxen and 1 cow and a calf, but they had fewer donkeys and goats than the hand farmers. It was found that there was some tendency for the mixed farmers to reduce the amount of inter-cropping as not suited to plough cultivation. For the same reason they often abandoned cultivation of some crops such as sweet potatoes, but the main rotation of guinea-corn and cotton had not been affected. The acre yields of the mixed farmers' food crops were significantly higher, guinea-corn was 532 lb. an acre compared with 514 on the hand farms, although the former were cultivating twice the area.

While these mixed farmers had not, at this early stage, entirely abandoned shifting cultivation, the retention of bush fallow was becoming not only less necessary but less desirable, since a permanent block of accessible plots reduced the need for carrying manure long distances, a practice to which they were very averse. Although the proportion of their farm areas devoted to cash crops was much higher than those of the hand farmers (23 per cent as compared with 7 per cent), the mixed farmers produced more of the staple foods, having for example 14 bundles of grain per adult as compared with 11 lb. for the hand farmers, who appeared to have a grain deficit made up by purchases. After a few years this situation indicated a very substantial achievement, although the report, like others on the development of mixed farming, also revealed the need for regular and careful supervision in the early years. This was fully possible in this particular group and its success, as compared with reports of failure and selling off of beasts after a few years in some other areas, points to the need for development to be concentrated in compact and accessible areas, where economic rewards can be safeguarded, and its educational effect allowed to radiate gradually to more remote areas as facilities increase.¹

But the original system of mixed farming with a two-bullock and plough

¹ A budget for the first year of working of a mixed farm at Misau in Bauchi province (*Report by Agricultural Officer, Bauchi Province*, No. 79, 1940) affords a more detailed illustration of the immediate rewards. A household of one man, his wife, two working sons and six small children were farming 9.5 acres of which 7.5 were

unit, although it is proving very satisfactory where first developed, in the cotton zone of Zaria and Bauchi provinces, has not been found to be applicable throughout northern Nigeria and a number of variant uses of livestock in mixed farming are accordingly being attempted.¹ In the inten-

in grain and peas, 2·8 in ground-nuts. The harvest included 4,388 lb. of threshed grain and 110 lb. of cow-peas. The total value of the crops and the amounts sold were:

	Totals			Value of portion sold		
	£	s.	d.	£	s.	d.
Grain - - - - -	3	1	10			
Cow-peas - - - - -		3	0			
Cotton (768 lb.) - - - - -	3	4	0	3	4	0
Ground-nuts (1,200 lb., unshelled) - - - - -	1	5	0	1	1	8
Indigo - - - - -		4	0		3	0
Crops sold - - - - -	£7	17	10	£4	8	8
		4	8			
Crops held - - - - -	£3	9	2			

A further £1 1s. was received for crafts, giving a total cash income of £5 9s. 8d. Despite some deficit in grain production in relation to household needs, (the household grain and pulse needs were reported as 6,360 lb., approx. 2 lb. per day per adult unit, as compared with a production of approx. 4,500 lb.), the cash balance given below would cover this; this sum will be seen to be adequate in relation to typical northern incomes for essential purchases and for repayment of an instalment of the cost of equipment which had amounted to £6 12s. 6d. Moreover, the return was obtained before a normal supply of manure was available for the farm. Within two or three years a 50 per cent increase in yields could be looked for. Recorded annual outgoings were as follows:

	£	s.	d.		£	s.	d.
Meat - - - - -		17	4				
Milk - - - - -		6	6				
Salt, etc. - - - - -	8	8	8		1	12	6
Clothing - - - - -					1	2	0
Tax - - - - -					18	0	
					3	12	6
Instalment on Equipment		1	0		1	0	0
Cash balance - - - - -					17	2	
Total - - - - -	£5	9	8				

¹ See King, J. G. M., 'Mixed Farming in Northern Nigeria', *Empire Journal of Experimental Agriculture*, v. 7: 271 and 288, 1939; for a convenient review of these experiments. For further details on particular aspects of the development of mixed farming see *Annual Reports on the Agricultural Department*, Nigeria, especially from 1935; Hartley, K. T., and Greenwood, M., 'The effect of small applications of Farmyard Manure on the yields of Cereals in Nigeria', *Empire Journal of Experimental Agriculture*, v. 1: 113-121, 1933; Faulkner, O. T., and Mackie, J. R., 'The Introduction of Mixed Farming in Northern Nigeria', *Empire Journal of Experimental Agriculture*, v. 4: 89-96, 1936; Stockdale, F., *Report on a Visit to Nigeria, Gold Coast and Sierra Leone, October 1935-February 1936*, Colonial Office, 1936, C.A.C. 270; Lynn, C. W., *Report on Visit to Northern Nigeria to Study Mixed Farming*, Department of Agriculture, Gold Coast, Bulletin No. 33, 1937.

sively farmed area round Kano city, where an expansion of the typical holdings to 10 acres or more is not possible, experiments are being conducted with 5 acre farms equipped with 3 working donkeys and 10 goats, which produce approximately the same amount of manure as two bullocks.¹ An attempt is also being made to establish dairy farms in this area on the basis of twin-household units of about 2 acres each, having 1 cow, 1 donkey and a few goats for each household and using the two cows for the annual ploughing as well as for dairy production.

In the drier country of lighter and poorer soils on the northern borders, where bullocks are still less necessary for ploughing and the returns in cash crops even with improved yields would not be sufficient to repay advances, donkeys are being employed for ploughing and goats for manuring in some experimental units.² If a large donkey troop can be kept, goats may be largely eliminated.

In other areas, further combinations are being tested; mixed farming is being practised with cows which are also used for dairy and breeding, while hand farming is being tried with a large goat flock for manuring. The importance of the latter must not be under-estimated in connection with the many fly-infested areas in the north since the problem of eliminating sleeping-sickness by means which do not involve prohibitive costs and destruction of necessary tree growth has not yet been solved.

In the rice-growing area in Sokoto, where it is found that the use of bullocks for puddling the rice fields can raise the yield from 500 lb. to as much as 4,000 lb. per acre, it is hoped to establish farm units with 3 acres of irrigated land using a pair of bullocks. Annual cash returns of £7 to £8 would be secured from rice at moderate yields together with dry crops of wheat, ground-nuts and sweet potatoes.

The use of livestock itself is moreover by no means the whole of agricultural advance. Crop production can be, and is being, advanced, by improved fallowing methods, by the introduction of superior varieties of seed, by advances in cultivation methods and tools and a number of other minor technical advances which, as the records of cotton production and quality illustrate, can together produce very large measures of improvement.

In relation to the very limited funds and personnel available for instruction and organisation, the spread of mixed farming has been encouraging, rising from 3 units in 1928 to over 2,000 such farms supporting some 10,000 people in 1941, with new units being added at the rate of 450 a year. The simplicity of the methods used and their adjustment to traditional

¹ The manure outputs are approximately 12 goats = 7½ donkeys = 1 bullock = 2½ tons of manure.

² In Sokoto province a typical guinea-corn yield is only 350-400 lb. per acre and only 650 lb. on well manured soil. A pair of bullocks could plough 20 acres of this light soil, far more than is needed.

practice, the fullest demonstration of benefits before attempting to induce farmers to adopt it as well as the backing of the financially strong and socially powerful have all contributed to this achievement. Considerable as this growth has been, it is, however, very small in relation to the farming population of northern Nigeria, and already this degree of advance has presented problems of organisation and supply. Mixed farming is far from achieving independence of external direction and support. Such matters as the securing and proper storage of fodder and the importance of bedding as a source of manure are difficult to instil, while tendencies to overwork stock, to neglect the need for proper feeding during the busy season are inevitable among a people like the Hausa who lack any indigenous tradition for the care of cattle. Moreover, there still lies in the future the crucial stage in which they will have to learn to rear their own stock instead of being dependent, as at present, on the provision of selected bullocks reared by the Fulani. In all these directions careful instructions and supervision will continue to be essential and this will involve a great increase in supervisory personnel; supplies of suitable stock are difficult to build up; the problem of organising the system of credit is already serious. If, therefore, we envisage an extension of mixed farming to include several million farm units, the need for planning a great increase in the scale of organisation is apparent. Native technical advisers will need training in hundreds, co-operatives or other credit organisations will be needed in every district while stock farms and implement factories will have to be developed on a very considerable scale.

On the other hand, there are grounds for confidence that northern farmers are capable of mastering the techniques and developing the attitude of mind necessary for the new system. The existing mixed farmers have shown initiative and energy and many groups have already made useful innovations of their own, such as co-operation in the use and maintenance of stock and livestock. Moreover, the general response of northern farmers to the suggestions and instruction given by the agricultural service has been very satisfactory. Thus, whereas fifteen years ago cotton-growing methods were poor and yields were low, native growers have now reached a very good general standard and have also learned to grade their own cotton. The Agricultural Department has also learnt from its own mistakes to give native agricultural practice the benefit of many doubts. It no longer, for example, advocates the clean farming which deprived the soil of moisture and promoted its degradation and erosion and it has abandoned much of the earlier development of green manuring which appears to have been incompatible with physical and economic conditions.

Since the policy of mixed farming aims at the slow transformation of agriculture throughout a vast area, it will affect millions of people and inevitably have the most widespread repercussions on every phase of economic and general social life. It is, therefore, very necessary that pro-

vision for orderly development of the new processes that will be set in motion should also be made. This involves consideration of future development in internal marketing and the handling of export crops, in the adaptation of old crafts and the establishment of new industries.

It is important to consider briefly some of the initial conditions and consequences of the widespread development of mixed farming. The first immediate effect, assuming that there is at first no substantial reduction in the farming population, will be the need to provide for a net increase in the farmed area. The low densities of population over wide areas of fair fertility and the considerable stretches of unfarmed country which still exist suggest that, although tracts of bush will still be needed for supplementary grazing, sylvan products and firewood, a considerable extension of farmed areas can be effected without creating severe local shortage of land. There is, therefore, on this count little danger of driving hand farmers from their lands and forcing them to become landless labourers. A second effect will be a net increase in farm outputs affecting food crops for internal consumption as well as export crops. In view of the very low existing levels of food consumption, there can be little doubt that there is a strong latent demand for a greatly increased production of foodstuffs. Increased outputs may have the effect of lowering agricultural prices and particularly those of grain relative to the scarcer and more specialised agricultural products. This would reduce to some extent the increased returns secured by the mixed farmer, but would ease the situation among the urban populations, while the hand farmer who continued to rely mainly on subsistence production would be little affected. But a point may be reached at which the growing supply of internal food staples and established export crops will overtake the demands and any further extension of mixed farming will require either the development of new markets for other crops, to which a greater proportion of output will have to be directed, or the progressive withdrawal of people from agriculture as mixed farming is extended. Both lines of action will probably be desired and attempted. The first may depend very greatly on external economic conditions, but the latter is one which will bring the question of mixed farming into intimate connection with the local development of secondary production and services. Hitherto, as has been seen, indigenous crafts have in general not thrived, despite the increase in native incomes, through export production. This appears to have been mainly due to the fact that they have not been able to meet new demands as effectively as cheap imported industrial products and underlying this has been a lack of capital resources to reorganise both the techniques and managements of industries based on native craft traditions.

Since there are weighty reasons for avoiding over-concentration on the production of export crops and the continued importation of so high a proportion of manufactured goods, the extension of mixed farming is

likely to require a concomitant programme of technical training and capital provision for the development of secondary industries. At the same time there is no lack of other needs which can be met by the diversion of labour freed from farming into other activities. The staffing of schools, medical services, co-operative organisations, transport services and more specialised marketing systems will all make considerable demands. If the promise of the initial phase is fulfilled and a fifty per cent increase in agricultural output above existing levels were achieved, the full development of mixed farming at present standards would permit the release of about a quarter of the existing farming population for other forms of economic activity.

The point referred to above is particularly important in connection with fears that have been expressed lest mixed farming may lead to a system of *latifundia* and the growth of a class of depressed landless farm labourers. There is indeed the likelihood in certain areas, especially near big markets and where considerable landed estates are retained by the nobility of the emirates, that the opportunities offered by mixed farming techniques for commercial agriculture and capital investment in land and farm equipment will be taken. The Emir of Bida is, for example, one of the leading mixed farmers. Moreover, the tendency to *de facto* sale and purchase of personal rights to land is likely to grow in closely settled and productive areas and a new class of landlords will emerge.

Steps to limit the acquisition of land beyond the limits needed by the farmer to run his mixed farm with household labour and local co-operation are already being taken in some areas. On the other hand, mixed farming is a more exacting technique and one that involves the maintenance of more capital equipment than the traditional hand farming. The optimum size of the mixed farming unit can hardly be said to have been settled yet, but the isolated one- or two-man farm unit with a pair of bullocks is very vulnerable to mischance. The relative merits of multiple households, co-operative household groups and farms run with the aid of paid labour cannot be decided *a priori* and they will not be the same in all areas. The really important point in this connection is not so much whether an attempt should be made to prevent the growth of a farm labouring class in connection with mixed farming in large units, but what rewards such workers are to receive. This will depend ultimately on the alternative demands for labour. With flourishing secondary industries and services, the large farmer who needs hired labour will have to provide conditions not merely as good but better than those at present enjoyed by the independent hand farmer. Without such alternative forms of employment, however, the risk of the growth of a depressed farm labouring class will be great.

The development of stock rearing for the fattening of cattle for the meat market and the increase of goat breeding for the sake of greater skin

production are also closely linked to the problem of improving farm productivity through increased manuring. Experiments in providing hand farms with cattle to be fattened on farm waste have been promising, while the supply of goatskins, of which Nigeria is already one of the world's major producers, could not only be increased but the quality greatly improved.¹

With a more systematic use of farm waste the goat population of hand farms could be considerably increased, the manure supply improved and crop yields correspondingly enhanced. While meat supplies from goats and the less numerous sheep appear to have been a very secondary consideration in most areas where skins were marketed, the total amounts so provided have been by no means negligible and a substantial increase in the goat and sheep population would make an appreciable contribution to the need for improving the local supplies of meat, particularly in more remote rural areas.

A further issue of great importance in the improvement of rural economy in northern Nigeria concerns the volume and use of the ground-nut crop. Ground-nut exports, which in recent years accounted for one-fifth of Nigerian produce exports and one-eighth of the world trade in this commodity, amounted to 326,000 tons in the peak year of 1937.² Its main uses are for the production of edible oil and stock-feed. But the process of extraction takes place after export with the result that none of the stock-feed is directly available in Nigeria itself. The question therefore arises as to whether a balance of advantage would not lie in promoting the processing of ground-nuts in Nigeria, whereby cheap supplies of stock-feed could be made available to the farming population. This would react favourably on all aspects of stock-breeding, including the development of mixed farming and the combination of dairy farming with cultivation. At the same time it would provide a new secondary industry for northern Nigeria, the need for which will become increasingly great as farm production rises and less labour is required for a given output of both food and exported crops. Decision on such questions will be necessarily affected by costs and prices, but the character and distribution of the crop are both favourable. Over half the export crop is at present raised from Kano, so that the concentration needed for the establishment of processing plant would involve no substantial change in local marketing, while the Kano area with its dense population will be one of the first areas to need new economic outlets for its working population.

¹ See Chapter VIII. By far the greater part of its 10 million goats are in the northern provinces. In 1939 over 6 million goatskins were exported. The total output and value of hides and skins exported was nearly £700,000 from about 800,000 cattle hides, 880,000 sheepskins and 6,210,000 goatskins. An unknown, but small proportion of all these originated from French territory. Over 30 per cent of the exports went to U.S.A.

² See also Chapter VI, pp. 243f.

A special regional problem of rural development in northern Nigeria should be mentioned here. This concerns the large remote areas of Bornu province.¹ This remoteness has very largely inhibited the participation of Bornu in the development of export crops, more advanced farming methods and the improvement of livestock which have taken place further west. The importance of communications in this connection is illustrated by the fact that the extension of the railway line to Nguru on the Bornu border was estimated to have added some 40,000 tons of ground-nuts to the annual market crop. But under existing conditions of road development the major export crops cannot be marketed on any scale in areas more than 120 miles from the railway.² In addition to its subsistence production and exportable surplus of goatskins, the farming population of Bornu has its own speciality, production of gum Arabic. But this recent development has remained very small in scale, the production before the war being only one-fortieth of that of the Anglo-Egyptian Sudan.

It has been suggested that stock development should be the main objective in Bornu rather than an attempt to extend cash crops into this area. Consideration of the recently over-supplied world markets for cotton edible oils and cattle feed would support this. Bornu has about a million cattle, mostly in the hands of pastoral Fulani and Shuwa Arabs. The development of known supplies of sub-artesian water in this arid province would make possible a large increase in the cattle population, whose condition would also be greatly improved if their rearing could be integrated more closely with farming. A special system of mixed farming, perhaps on the lines of the development in parts of Zaria referred to above, where cattle are numerous, may provide the foundations for economic advance in this as yet thinly settled and economically backward province.

¹ No material for a detailed consideration of the native economies in Bornu could be obtained for this study.

² See Turner, R., 'Some Economic Aspects of the Ground-Nut Industry of Northern Nigeria', *Empire Journal of Experimental Agriculture*, v. 8: 46, 1940.

Chapter IV

OTHER NORTHERN ECONOMIES

1. THE MIDDLE BELT

South of the predominantly Hausa-speaking areas of northern Nigeria in which, as has been seen, the production of ground-nuts, cotton, hides and goatskins for export has been developed, there is a belt which has been increasingly recognised as distinctive. Although it falls administratively almost entirely within Northern Nigeria, it is in many ways transitional between the north and south in economy and general social conditions. Both northern and southern food crops are generally grown and, while Fulani conquest and Moslem belief and custom have affected many of its peoples, these are not Hausa-speaking and many elements of earlier social structures and cultural values persist. As regards recent economic development, the outstanding feature is the absence of the major cash crops of either the north or the south. On the one hand the middle belt lies too far north for considerable outputs of oil-palm products, while on the other a combination of physical conditions, limitations of transport and in some cases an absence of native commercial organisation have inhibited the substantial surplus production of ground-nuts and cotton.

This middle belt has not, therefore, developed an exchange economy of the comparatively simple type found in the oil-palm and cocoa areas of the south, or the ground-nut and cotton areas of the north. This has meant that in general household money incomes have been lower, but there have in certain areas been some compensatory advantages. Not only has its greater self-sufficiency protected the area against the impact of depressions in world crop prices, but a greater diversity of farming has often been maintained, which has given some measure of insurance against adverse market conditions to those farmers who sell some of their output.

There has also been some development in the production of minor export crops, of which sesame (beniseed) is outstanding, which appear to have suffered less from fluctuation in prices than most of the great export staples on which other areas have so largely depended for their cash incomes.

The middle belt can be roughly delimited as extending along the line of the middle Niger and Benue rivers, occupying the southern parts of the Ilorin and Niger provinces and most of the Kabba and Benue provinces. Within it, as has been said, there is considerable diversity of ethnic and economic conditions. This diversity and the general character of the belt

can best be indicated by brief sketches of conditions in three different areas, Bida emirate in Niger province, the northern Yoruba country in Ilorin province and the territory of the Tiv (Munshi) in Benue province.

(a) THE NUPE

A detailed account of Nupe rural economy is available in Dr. Nadel's study of Bida emirate, based on his field investigations in 1934 and 1935-6,¹ of which only the more salient points need be selected here for comparative purposes. Save in the vicinity of Bida, which is also an area of poor soils, there is no great pressure on land and the average densities of population (1934) are estimated at 55 per square mile east of the Kaduna river, and no more than 18 to the west of it. Most of the land is held in trust for their groups by village chiefs and lineage heads who allocate and redistribute plots at need. Outsiders can and do secure access to farming land through adoption into the group, or by temporary borrowing of land.

But, especially round Bida and in other areas west of the Kaduna river, where population densities are higher, rights to much of the land have been affected by the Fulani conquest. These land rights derive ultimately from the title of the royal house, so that the acquisitions of land through a feudal system of clientship has established a complex hierarchy of titles. All such land is in particular hands and access cannot be sought simply on grounds of residence or group membership. Hereditary tenancies have been secured by commoners who have placed themselves under the patronage of a noble estate owner. These tenants have made initial gifts and annual payments in kind. Landlords, who do not usually farm themselves, also let farms for fixed initial cash-payments and annual rents in kind during the lifetime of the tenant. The increased emphasis on the initial payment and the practice of indefinitely sub-letting these tenancies, together with the difficulty of calling in the nominally lifetime leases are resulting in a situation of *de facto* purchase of such land. Initial payments have in recent years been of the order of £1-£2 for single household farms.

Quite apart from the specialised intensive farming of marsh lands mainly along the Niger river which are largely devoted to rice, Nupe farming is remarkably thorough and carefully adapted to the opportunities for raising a wide variety of crops which are grown in rotation during a period of continuous cultivation lasting from three to seven years according to fertility. This wide variety has resulted from the coming together of peoples whose several agricultural practices were originally more limited and from the slow process of mutual instruction in the needs and methods of the various crops. In this way yams, millet, or sorghum, and ground-nuts or cotton are grown successively, while other crops such as okra, beans and maize are inter-planted with each.

¹ Nadel, *op. cit.*

On the naturally irrigated riverine lands, rice followed by a root crop—often cassava and sweet potatoes in alternation—are grown continuously, while the small gardens round the homesteads in both villages and towns, which are manured with homestead refuse, are also continuously farmed, although the crops do not differ from those grown on the main farm.

Household farms are of the same general size as in the north, but this is deceptive. While farms of from 6 to 9 acres of cultivation appear to be common, they are worked by several men, as many as five male relatives participating in the labour and product of a single farm. Thus, the acreage per adult man approximates more closely to the southern scale, being rarely much more than two acres.

Farm work is generally organised on the dual recognition of both individual and collective work. A man usually works as one of a group, which normally coincides with the members of the multiple household characteristic among the Nupe, under the direction of a senior member, and at the same time he also tills a small personal plot. The latter is rarely as much as an acre in area. It can be worked, if the farmer is also a member of a collective group, only in time free from tasks on the main farm, and the return is then only one-third to one-half of what he receives as his share from the collective farm. Dr. Nadel reports that both competitive and co-operative attitudes are strongly developed in these groups and that these undoubtedly contribute to improved cultivation and higher outputs. The collective farming groups are themselves often only sub-sections of the still larger lineage compound, containing as many as twenty-five or more grown men, which is the characteristic resident group among the Nupe.

The produce of the multiple household farming group is controlled by the head, who may himself be too old to participate actively in its cultivation. He disposes of it according to well-established principles which include the maintenance of farming equipment, the provision of food, housing and clothing for the members and their dependents, as well as of tax money and marriage payments. On the other hand, the proceeds of each man's personal plot, or of his craft or trading returns can be devoted to the personal luxuries and other wants of his own family. Traditional rules control the proper succession to the headship of the multiple household unit and the hiving off of members to form new units.

But the size of the collective farming groups is declining. Whereas ten to fifteen members may well have been normal in pre-British days, the typical group to-day contains only two or three men. This process is continuing to the point at which the collective group disappears and men on marriage claim and receive personal plots to enable them to farm entirely on their own.

The tendency to dissolution of the multiple unit, despite its manifest advantages of greater variety and security of crops, more economic use of man-power with better provision of responsibility for the experienced and

leisure and support for the old, is a striking example of the effects of a growing desire for personal control and freedom of choice in both work and leisure among the younger men. This attitude is developing under conditions of widening opportunity which can be matched in some degree in almost all parts of Nigeria and in all forms of economic activity. For similar reasons, collective labour by larger *ad hoc* groups for specific agricultural and other tasks, such as hoeing, weeding and house-building, which are equivalent to the Hausa *gayya*, is also falling into disuse.

The multiplicity of crops, of which several may be in cultivation at one time on different plots, makes continuous demands on the attention of the farmers, but it also enables them to use their time very fully. There are fewer and shorter dead periods than is characteristic either further north or in the south. Nadel claims that 'Nupe agriculture, complex and ambitious as it is, depends for its success on a very high degree of technical efficiency. . . . The most conspicuous gauge of this efficiency lies in the successful use of the intricate and finely cut . . . schedule of planting, weeding and harvesting.'¹ He also found that consideration of the returns to be expected from various crops and the efficiency of the labour available played a marked and conscious part in the agricultural planning of most Nupe farmers.

There is in this economy no clear and comprehensive distinction between subsistence and market crops. Cotton, indigo, henna, late ground-nuts, red peppers, rice and onions are preponderantly grown for sale, being exported from Nupe country and in some cases going overseas. On the other hand, even more frequently than in the cash crop zones further north, a considerable part of the food crops are sold both as harvested crops and as prepared foods. Apart from cassava which is regarded as a stop-gap domestic supply, safe from the ravages of locusts, but of low money value, very few crops are grown exclusively for household consumption. A highly developed marketing system makes possible the sale and purchase of the surplus of almost all agricultural produce. The division between subsistence and market production depends on the food needs of the household and the equally pressing need for commodities which can only be secured by selling crops for money, and for payment of tax. But the adjustment of crops grown to fluctuations in their market prices appears, perhaps in consequence of the wider choice available and the great development of exchange, to be more flexible and deliberate than in the main ground-nut and cotton belts of northern Nigeria.

Sylvan produce is important in Nupe production and again reveals the transitional character of the area. The locust-bean is gathered, consumed and marketed in very large quantities as it is the favourite flavouring of nearly every dish. Shea-nuts are similarly collected both to provide the greater part of the fat for household cooking and for sale to the trading firms. On the other hand, in the riverine tracts of 'gallery forest' and the

¹ *op. cit.*, p. 224.

dense and uncleared northern forests round Yete, the oil-palm is available. These are fully exploited. Palm-oil, when it can be afforded, is the chief ingredient in all soups and sauces. But the local production is quite inadequate and most of the oil consumed by the Nupe has long been imported from the south. Indigo is also obtained both from the leaves of the wild tree and from the wild grass. Although both the northern (Hausa) and southern dyeing techniques are practised by men and women respectively, the bulk of Nupe indigo is exported to the Yoruba. The Nupe, who have shown a great readiness to adopt new crops and farming methods, have responded little to opportunities to establish cultivated plantations of valuable trees apart from kola and the banana. The slow growth of trees, the difficulty of fitting the cultivation into an already full agricultural calendar, as well as the lack of strong price inducement, appear to have restricted plantations to a few groups among whom they are a traditional specialisation.

The Nupe are distinctly 'northern' in their division of farm labour, for women do no farm work as a regular and obligatory household task. At the same time Nupe women, also as generally in the north, contribute much labour to the preparation of crops for marketing, especially in the form of prepared foods, from the returns on which they provide practically all the secondary element of the domestic food supply. Women market the surpluses of food crops, receiving a commission and also often secure a secret profit on the transaction when handing over the returns to the head of the household. The collection and marketing of sylvan produce are undertaken by women on their own account.

The multiple household and farm units, together with personal plots and the many and various subsidiary sources of income of the numerous members, render estimation of Nupe household budgets even more complicated than that of typical northern farming households. Comparison of levels of income and consumption are also difficult, but a few examples of household and farming units, which Nadel considers representative, suggest that the levels of consumption are decidedly lower than among the rural population further north. Thus, while there were marked differences, especially between Bida, the capital, and the countryside, in both actual levels of consumption and the desired standards, the basic need of grain, which is the staple, for a household of 4 (presumably 2 adults and 2 children or equivalent to 3 adult units) was estimated at 12-15 unthreshed loads of about 60 lb. each, which may be assumed to be equivalent to 120-150 lb. of threshed grain per adult, or less than $\frac{1}{2}$ lb. a day.¹ In five sample rural households, the grain consumed annually per head of the

¹ This assumes a moderate threshing ratio of 50 per cent; Dr. Nadel appears to imply that a 60 lb. bundle yields only some 12 lb. of grain, but this is very unlikely and cannot be accepted without some fuller explanation. It would mean a *per caput* grain consumption of less than $\frac{1}{2}$ lb. per day.

total population is said to have ranged from $\frac{1}{4}$ to over 6 loads. Even the higher figure is low by northern standards. On the other hand, the Nupe household grain supply is supplemented more substantially and regularly than is general in the north by other crops, such as yams, cassava and okra.

The cash incomes from farm and sylvan produce and secondary activities are similarly small. Thus, the total recorded money income of men in five households ranged from 10s. to 17s. per man, out of which a very heavy tax-payment of about 9s. per man had to be met. The usual sources of this money income were a few loads of grain, some surplus root crops and mat weaving. Owing, perhaps, to the very full development of internal marketing of domestic supplies, including equipment and tools, very little craft work is carried on in the villages, which depend on specialist production in the towns.

Full time craftsmen among the Nupe, who are thus found only in the larger centres of population and especially in the towns, have not in recent years enjoyed substantially higher incomes than the peasants, typical cash incomes of a weaver and a hat maker in Bida being £2 8s. and £1 in a year.¹ Estimates of the money cost of food supplies in Bida, where prices are rather higher than in the countryside, are an absolute minimum of 1 $\frac{1}{2}$ d. per day for an adult man, 3d. per day for an adequately nutritive diet and 5d. per day to meet the accepted general standard including some delicacies and small amounts of meat. The small minority of well-to-do households in Bida, on the other hand, enjoy a substantial and varied diet, but that of the rural farming population, whose only animal protein is a little occasional dried fish, appears not only meagre but inadequate to maintain satisfactory levels of fitness and energy. There may well be a correlation between these low levels of consumption and the very low fertility of the Nupe.

It appears that the Nupe, despite the reputed efficiency and enterprise of their farming and the considerable development of trading, achieve only a low standard of physical well-being when judged by general northern standards. To some extent this may be attributed to features of the political structure whereby the ruling house and the aristocracy secure to themselves a considerable portion of very limited farm output in the form of tithes and rent payments. Officials, again mainly drawn from the aristocracy, also enjoy a higher standard of living through the receipt of fixed and, by local standards, fairly generous emoluments. Dr. Nadel himself points out not only the heaviness of the tax burden but the fact that a substantial part of the proportion assigned to the Native Authority passes to the privy purse of the royal house. But similar, if less extreme, conditions exist very generally in the north. The effect is marked here because outputs are so low and, in the absence of a sure market for an easily grown cash crop, money incomes with which to meet tax charges and purchases of equip-

¹ *op. cit.*, p. 355.

ment, clothing and supplementary food supplies are extremely inadequate. The rural population of Nupe is underfed and under-equipped, and no way has yet been found out of a vicious circle of low outputs and inadequate consumption.

(b) THE YORUBA OF ILORIN

No comparably detailed study is available for the eastern neighbours of the Nupe in the middle belt, the Yoruba of Ilorin, but they require consideration here since they have undoubtedly enjoyed a somewhat higher standard of living.

An enquiry into economic conditions in sample villages of the Oloru district north of Ilorin town in 1933¹ showed that crops differed little under very different physical conditions, although farms were considerably larger on the lighter soils. In contrast with the Nupe farming pattern, yams and okra were the main crops and provided most of the marketable surplus. Cultivation was carried on in one-man farm units which varied from 3½ to 6 acres in area. Yam yields were lower than is usual in the south, ranging from 5,000 to 7,000 lb. per acre when inter-planted with beans and maize.

A typical farm output in Shao, the most prosperous village in the district and one with a high standard of cultivation and good access to the markets of Ilorin town, was:

TABLE XXXIV
ESTIMATED ANNUAL YIELD AND VALUE OF FARM OUTPUT,
SHAO, OLORU DISTRICT, ILORIN PROVINCE, 1933

Crop	Acreage	Yield (lb.)		Local Value		
		Total	per acre	£	s.	d.
Yams }		7,940	5,293	1	10	2
Beans }	- - -	243	162		6	3
Maize }		85	57			8
Okra - - -	1.35	189	140	1	15	0
Beans }		315	1,260		8	2
Maize }	- - -	42	168			4
Guinea-corn }		574	638	7		3
Maize }	0.9	987	1,097	6	11	
		4.0		£4	14	9

The annual budget of this farming household was estimated without any allowance for sickness and other needs, as follows:

¹ Paterson, G. M., *Reassessment report of Oloru District*, 1933 (unpublished).

TABLE XXXV

ANNUAL BUDGET OF FARMING HOUSEHOLD, SHAO, 1933

Composition of household: 1 man, 1 wife, 2 children (10 and 4 years).

<i>Receipts</i>				<i>Expenses</i>								
<i>Yield (lb.)</i>		<i>Value</i>										
		£	s.	d.		£	s.	d.				
Yams	-	7,940	1	10	2	Yams, 7,500 lb.	-	1	8	5		
Okra	-	140	1	15	0	Maize, 1,095 lb.	-		8	6		
Beans	-	558		14	5	Palm-oil, 2 gallons	-		2	0		
Maize	-	1,114		7	11	Salt, 21 lb.	-		3	0		
Guinea-corn	-	574		7	3	Locust-beans	-			6		
						Peppers	-			6		
						Okra	-		1	0		
Crop total		-	£4	14	9	Food total		-	£2	3	11	
Locust-beans	-	-		1	3	Farm tools	-	-		9		
Firewood (collected and sold by wife in Ilo-rin)	-	-		1	0	0	Shea-nut oil (light)	-		6	0	
Goat	-	-		1	0	Clothing, bedding, etc.:						
Poultry	-	-		1	3	Man	-	£1	3	0		
						Woman	-	1	1	3		
						Children	-	12	0			
									2	16	3	
						Tax	-	-	-	12	6	
										£5	19	5

It will be observed that practically all the yam and maize production was consumed by the household. On the other hand, almost all the okra, beans and guinea-corn appear to have been disposed of to contribute to a total estimated money expenditure of £4 1s. In comparison with other parts of Nigeria, the estimates for expenditure on clothing and other personal needs are, however, surprisingly high. On the other hand, the diet is very poor even by general Nigerian standards both of the north and the south, while the tax rate is extremely heavy, being over 10 per cent of the gross income.

Other villages in the district were poorer. Thus data for Alagbade yielded the following figures:

TABLE XXXVI

ESTIMATED ANNUAL YIELD AND VALUE OF HOUSEHOLD OUTPUT, ALAGBADE, Oloru District, Ilorin Province, 1933

	<i>Acres</i>	<i>Field (lb.)</i>	<i>Value</i>		
			£	s.	d.
Yams }	-	12,072	2	5	9
Beans }	-	600		15	6
Maize	1.09	883		6	10
Guinea-corn	0.5	220		3	1
Total crops	3.25		£3	11	2
Shca-kernels and butter production (by woman)	-	-		10	9
Locust-beans	-	-		8	6
Goat	-	-		1	3
Chicken	-	-		1	3
			£4	12	11

Craftsmen in these villages were few and impoverished. Thus in the comparatively well-to-do village of Shao referred to above, in which there were 421 able-bodied men, there were only two, a smith and a leather worker, who were primarily craftsmen. The smith's annual net income from the sale of hoes, knives, sickles and small articles was estimated at £2 5s. 6d. and he cultivated a half acre plot yielding crops to the value of £1 15s.; a total income of £4. The leather worker, earning only £1 4s. in a year, was a poverty-stricken dependent of his younger brother. Fifteen part time singers and drummers and a barber obtained only a shilling or two in a year from their additional activities. In Alagbade, the other village referred to above, with 129 working men there was only one full time specialist, a machine tailor, whose annual net income was estimated at £5 16s., and only six part time specialists, a smith, a tobacco trader, a tailor, a barber and two drummers.

The land within a radius of about ten miles of Ilorin town is reported to be seriously degraded by over-cropping. The normal fallow period among the Yoruba of Ilorin of five or more years following three years cultivation, which allows for the re-establishment of tall grass and some recovery of the soil, has frequently been reduced to three years or less in this area and enquiries in one village 9 miles from Ilorin revealed crop yields which were only half those normally obtained.

Ilorin is the only urban area in this large province and despite its size it is not an important market for export produce. A great part of its population is dependent on agriculture, while its native traders—a hierarchy which ranges from a few large-scale merchants receiving credit of several hundred pounds from the European firms to a host of small pedlars—are largely concerned with the supply of imported goods, mainly textiles, to

the rural population of a wide surrounding area, with internal exchange in foodstuffs.

There is a considerable demand both locally and throughout the south for the cloth produced by the considerable native weaving industry in Ilorin, which is conducted for the most part by full time male weavers. Some of the cloth is of fine quality and is highly priced, but little is known of the organisation of the craft or of the levels of output which prevail.

(c) THE TIV¹

The economy of the Tiv, who occupy a large tract of country east of the Niger and mainly south of the middle Benue, exhibits a number of peculiar features and raises special problems in connection with the development of the middle belt. Following the establishment of security, the combination of an extravagant farming system and a particularist land tenure surviving from more spacious days has, with the development of a cash crop, produced maldistribution of population and congestion in many areas together with serious soil degradation. Unfortunately, no close examination of economic conditions is available and only general indications of the nature of the problems can be given.²

The Tiv are a southern people who migrated northwards into largely unoccupied, lightly-wooded country south of the middle Benue and increased rapidly during the nineteenth century. The many sub-tribes and their component lineages have staked out claims to tracts of country which they have maintained against one another with great tenacity. Enthusiastic hunters, they have reduced the woodland and tall grass over wide areas by uncontrolled annual burnings for the rounding up of game. So rapidly has the population increased in many parts of the country that the region to the west of Katsina Ala is said to have densities as high as 300 to the square mile. On the other hand, there are also large areas that are very thinly settled, but the particularism of the clans and lineages has until recently frustrated attempts by the people of congested areas to secure access to the vacant land in the hands of other groups. Over half the population of half a million in the Tiv division is, in consequence, compressed into the small Kparev section between the Katsina river and the Ogoja border.

Tiv agriculture was, during the period preceding British control, adapted to the great freedom of movement and abundance of land which they enjoyed after migrating into the very thinly peopled Benue and Katsina valleys. Their practice was to clear hitherto unclaimed bush for each cycle of cultivation. It is still the custom to plant yams together with

¹ Since this account was written a valuable study of household production and consumption among the southern Tiv has been published. See Briggs, G. W. G., 'Crop Yields and Food Requirements in Tiv Division', *Farm and Forest*, v. 5: No. 2: 17-23, 1944.

² The account is based on Downes, R., *The Tiv Tribe*, (Kaduna), 1933; Briggs, G. W. G., 'Soil Deterioration in S. Tiv Division', *Farm and Forest*, v. 2: 8-12, 1941.

subsidiary crops including cotton on freshly cleared land. But these are followed by a crop of grain and cow-peas in the second year and of beniseed in the third before the land is allowed to revert to fallow. Such a system was satisfactory when the new yam farms were made on hitherto unfarmed land which was virtually abandoned after one cycle of cultivation. But where, as in the more densely peopled areas to-day, there is no more virgin land and a resting period of as little as three years is allowed before resuming cultivation, the effects are disastrous on both crop yields and soil fertility. Moreover, the passage of the eastern branch of the railway through Tiv country greatly stimulated the cultivation of beniseed (*Sesamum indicum*) as a cash crop in recent years. The shortened fallow and uncontrolled burning prevent the re-establishment of the grasses which normally succeed clearings in this savannah country and encourage the invasion of spear grass, which appears to return little organic matter to the soil and is very ineffective in reconstituting its texture. The position has been still further aggravated by a growing shortage of firewood with the deterioration of the bush and even the roots of trees have been dug out for fuel. The result of all this has been to convert large areas of former woodland into treeless downs clothed in spear grass, with badly degraded soil, often seriously gullied by the rapid run-off of water during the rains.

The obvious needs are for redistribution of population and the establishment of a farming system that will yield greater returns and arrest the destruction of woodland and the degeneration of the soil. As the Tiv country is fly-infested and the small numbers of dwarf cattle are allowed to roam free, being valued for gift exchanges and ritual purposes, there is little immediate prospect of establishing animal husbandry with some form of mixed farming. Despite great resistance hitherto, the recent establishment of a tribal council, which is being led to consider the land question as a whole, raises the hope that sufficient solidarity may now be developing to secure a substantial resettlement of population by controlled migration of kin groups from the crowded to the more sparsely settled areas.

Mr. Briggs has recommended, on the basis of experiments conducted in the area, that soil regeneration in the seriously degraded areas should be attempted by encouraging the planting of all land going out of cultivation with pigeon-peas or the local gambra grass. This was calculated to inhibit the growth of spear grass and would aid soil recovery even during short fallows. He recognised, however, that this would involve a great change in the attitude and farm practice of the people for which very considerable supervision and encouragement would be needed. Thus, the country and the economy of the Tiv are in exceptional need of remedial measures designed to restore a balanced system of land use at a higher level of productivity. It is only too clear that an assured cash crop alone cannot be expected to remedy a situation which both demographic conditions and ill-suited agricultural methods have produced.

2. THE PLATEAU PAGANS

The 2,500 square miles of the Jos or Bauchi plateau situated in the heart of northern Nigeria is set apart from most of the rest of the country not only by the peculiarity of its physical conditions, but by the fact that an economy has survived over this extensive area which differs considerably from that of most other northern agricultural peoples. This results from the special conditions of the plateau which have served both to preserve an older cultural tradition and to reinforce some of the economic characteristics associated with it. There is reason to believe that a somewhat similar economy was formerly very widespread and it is still found among the pagan remnants west and south on the plateau; but the expansion of the Hausa from the north and the probably still wider diffusion of their cultivation methods continually reduced its area. Finally, the Fulani *jihad* of the nineteenth century accentuated the process by the further conquest of wide territories and more extensive slave raiding which depopulated large pagan areas.¹ These people were redistributed as agricultural serfs, particularly in areas near the great centres such as Kano, Sokoto and Zaria, and were ultimately assimilated into the dominant political and economic organisations of the north.

Thus, by the time of the British occupation, autonomous pagan communities unaffected by the methods and standards of the Moslem states were largely confined outside the central plateau to a narrow strip in the Adamawa and other highlands along the eastern frontier. Even there, with the establishment of peaceful conditions and opportunities for trading with the outside world, there has been a considerable exodus and a corresponding change in economic activity.²

The plateau proper, an undulating granite massif which occupies mainly the Jos division and the western part of Pankshin, but extends into adjacent part of Bauchi, has an area of about 2,500 sq. miles and lies mostly at an altitude of 3,500 to 4,500 feet with eminences rising to 6,000 feet. It presents steep scarps to the flanking lowlands, especially on the west and south. The rainfall, which is much higher than in surrounding areas, is between 50 in. and 60 in. in the wet season from April to September and there are occasional light falls in the rest of the year. Under these conditions, the soils derived from the resistant granite rocks are naturally adequate for the maintenance of extensive woodland. This is especially the case with the soils from the older granites and evidence of considerable tree growth in the past has been reported from such areas. But

¹ Pagan is the established term in northern Nigeria for all non-Moslem indigenous peoples.

² See, for example, White, S., 'The Agricultural Economy of the Hill Pagans of Dikwa Emirate, Cameroons', *Empire Journal of Experimental Agriculture*, v. 9: 65-72 1941.

the plateau to-day, as a result of nearly forty years of rapidly increasing deforestation by tree cutting and grazing, is almost treeless and consists of wide expanses of undulating hills clothed in short grass, broken by rock ridges, stony kopjes and gullied streams. Many of the ridges and slopes have been severely leached and sub-soils have often been exposed by erosion, but there are also wide level basins of deep soil accumulation. It appears that serious erosion and soil degradation are a recent development of the past twenty years.¹ In all these respects the plateau proper presents a sharp contrast with the lower lying and smoother country of the Jemaa and Shendam divisions of the Plateau province which are generally well-wooded, little eroded, and agriculturally more fertile.

The pagan peoples, who have survived the Hausa and Fulani invasions which lapped round and at times penetrated their upland territories, are broken up into a very large number of small autonomous communities, many of which have concentrated in the most inaccessible parts of the area because of their past fears of Fulani and other raiders. Thus, in the high lands of Pankshin division alone there are over seventy linguistically separate groups, each divided into a number of small communities in their remote cactus-hedged villages. Estimation of the number of the total population on the plateau proper is not easy. In addition to the indigenous population, a fluctuating number of 'foreigners', especially Hausa, have come in to the tin workings on which over 13,000 men were engaged in 1937. The Jos division, which lies almost entirely on the plateau, was estimated to have a population (excluding the urban township) of about 132,500 in 1,500 sq. miles in 1937, or an average of 92 per sq. mile. Of these at least 100,000 are indigenous pagans.² There are probably another 100,000 pagans in Pankshin either on the plateau proper or in the rocky country that flanks it on the east. Nor are pagan tribes which preserve much of the original economy and social organisation confined to the plateau. Much of the lower lying country in the Jemaa, Shendan and southern divisions, including areas of deep fertile soils—the densely wooded areas in Jemaa for instance—are still occupied by pagans growing their small grains and yams in preference to guinea-corn. The total estimated (1936) population of these three divisions was about 220,000.

The pagan economy is based on the collective cultivation by multiple households of crops of small grains and roots.³ The traditional staple

¹ The development of mining, which began in 1901 and became very active and widespread after 1919, was responsible for greatly increased deforestation since timber was used for both wood-burning plant and for household fuel by a rapidly increasing alien population. Intensive Fulani grazing, especially of more humid areas, further inhibited recovery. See Russell, G. W., 'Forestry on the Plateau', *Nigerian Forester*, v. 1, No. 2: 11-15, 1940.

² *Agricultural Survey of Plateau Province*, 1937 (unpublished).

³ No recent data, or material comparable in detail with that for other northern agricultural groups, are available for pagan communities on the plateau. The

'acha' (*Digitaria exilis*), of which there are several varieties, is a small grain much inferior in yield and food value to guinea-corn but it ripens early and is well suited to the thin and frequently leached soils of the plateau. A similar and widely grown grain is 'iburu', while Eleusine millet is frequently found as a subsidiary crop. For these grain crops large mounds giving an adequate depth of soil are made and seedlings are often transplanted. Yams and coco-yams (*gwaza*) are planted in more humid tracts, especially along stream banks, but the greater labour which their cultivation demands is given as a reason for reliance chiefly on the grain crops. On the margins of the plateau, and within it in some parts which have better soils and considerable external contacts, guinea-corn and Pennisetum millet have become established and exceed 'acha' in importance. This is generally true among the pagans of the lower lying lands to the south of the plateau proper, but the practice of ridged cultivation required by these more rewarding crops has been an additional impediment to their general establishment in the plateau. On the other hand, the terracing of hill lands to deepen and conserve the available soil, practised by some groups, notably the Bi-Rom, affords an indigenous basis for further development. Cassava has also been introduced in recent years, but it is not grown on any considerable scale. The ritual prohibitions associated with the grove spirits (*tsafi*) of the village often serve both to restrict and petrify the agricultural system, since they may include taboos on the cultivation of various plants and the rearing of particular stock.

Farming is organised and directed by the head of each compound which contains the households of several kinsmen; it involves the use of several large plots in various localities, some far from the village. Shifting cultivation combined with the desire for the utmost security of the village not infrequently puts very great distances, up to as much as ten miles, between farms and compound. The greater part of the farmland is under the control of the compound head, the other members of the group having only small patches reserved to them personally. Labour on the lands of the compound head has priority and the crop is placed in the main granary under his control. From this supplies for beer are taken and household rations are drawn when members' own harvests are exhausted. The main harvest is also regarded as the reserve against famine and for the next year's planting. Both men and women have their own smaller granaries in which their personal harvests are stored. These should, but very generally do not, provide for their own household needs for most of the year. Despite this collective storage system, it has been claimed that plateau farming groups often show little foresight in reserving adequate supplies of seed

account given here must therefore of necessity be in somewhat general terms. A useful brief account of pagan farming methods to the west of the plateau proper is available in the *Leverhulme Commission Technical Reports*, pp. 19-20.

for the next harvest.¹ This may, however, be a recent feature associated with the introduction of money incomes from mine labour and the increased opportunities for purchasing grain.

It should be emphasised that, in addition to the grain supply for direct consumption, a considerable further quantity is needed to meet the native demands for beer consumption. Beer drinking, in which the pagans differ conspicuously from the Moslem peoples of the north, although it can be abused, is by no means to be regarded as an entirely unfortunate diversion of good grain from its proper uses. The pagan beer has the consistency of porridge and considerable food value, while the process of fermentation provides a supply of protective elements which would otherwise be lacking in a diet which includes no dairy products. The beer-pot, as has been said, is the equivalent of the cow's udder. Beer is also a factor in promoting the cultivation of *Pennisetum* in preference to 'acha', as it is the best grain for this purpose.

An assessment survey of the Jos division in 1927² which affords the latest detailed material available on the economy of these communities, presents the following picture of the Vom district, at that time considered typical of the districts on the plateau south of the town of Jos. Here a population of about 8,640 was nearly all concentrated in the exceptionally large village of Vom itself, from which the surrounding country was closely farmed. Although the density of population for the district as a whole was only about 86 per square mile, good farm land was scarce and highly prized round Vom itself. The mean acreage per active adult male was estimated at almost exactly 5 acres of which over $3\frac{1}{2}$ were planted in 'acha', which would yield a crop of about 1,600 lb., and only $\frac{2}{3}$ acre on the average was planted in guinea-corn. The total money value of crops from the 5 acres at local prices, which presumably were high mainly on account of the considerable amount of alien labour in the vicinity, was estimated at £9 16s. 2d., of which £5 7s. 9d. represented the value of the 'acha' crop. There was no indication, however, that there was any substantial surplus of farm crops for marketing. In the more remote Machi district in the far south where the population was scattered in a number of small villages, 'acha' and 'tamba' grain in about equal quantities occupied practically the entire farm area of 5.1 acres per active male and were valued at £7 9s. out of a total of £8 13s. 6d. for all agricultural production.

Few livestock are kept by the plateau pagans. In the Vom district there were only some 2,000 goats, or 1 per able-bodied man, the breeding profit being estimated at about £8 10s. per 100. In some communities a few dwarf cattle and horses are found, but the former, which are mostly confined to the south of Jos division, are 'lineage' property killed for funeral feasts and are not milked, while the horses are used mainly for display

¹ Ames, C. G., *Reassessment Report on the Jos Division*, 1927 (unpublished).

² *ibid.*

and eaten only when they die. In Vom there were 402 horses and 16 mares and no cattle. A few chickens and dogs are found in most compounds but receive little care.

Pagan smiths keep alive the native iron-working craft but they are few in number and are being ousted by the Hausa and by imported ironware. There were, for example, only 5 smiths in Vom in 1934. The customer usually provides the material and the smith is paid in currency or quite often in kind or labour. Hoes cost from 3d. to 1s. apiece, knives or bracelets about 3d. A smith's income was estimated in 1927 at about £3 4s. although some earned much more. In Vom, for example, earnings up to £10 were recorded. Most pagan communities still produce most of their own pottery, wooden utensils, matwork and weaving. Potters in some villages are full time specialists. In Kwal district, where one woman in eight was a potter, the earnings per head were estimated at 15s.

But the pagan economy is no longer self-contained, particularly for communities that are in close contact with the alien groups which have penetrated the area. Pagans have increasingly gone to the European controlled tin workings to seek casual labour. These are mostly young men who will work for only a few weeks at a time to get the money needed for one or more particular purposes. Where Hausa and other alien communities have established themselves, again chiefly to labour on the tin workings, pagans, both men and young women, work on their farms. Most of such farm work is carried out under an agreement whereby 2s. or so is paid for a given farm job. In Vom, it was estimated that 75 per cent of the labour on the farms of the Hausa and other mine-working aliens was done by pagans.

Finally, the existence of the mines and the communities of mine workers has created a large and urgent demand for firewood in this generally treeless country. One of the most usual sources of supplementary income is, therefore, derived from the sale of bundles of firewood cut by pagans often in remote areas and carried many miles to the markets. The pagans, seeking to sell as much as possible, often use dried cactus for their own fuel. Thus, in the Naraguta district round Jos the majority of women carried in firewood from time to time. The annual amount per head was only some 10 bundles worth 10s. Nevertheless, the total sum, estimated at £573, was by far the largest item of income after subsistence crops from the farms. Women also collect sylvan produce such as Itale tree fruit and honey of which small surpluses are also marketed in the mining camps or in Jos township.

On account of the high market prices of food in the area, where Jos township and the mining centres contain large populations depending on purchased food supplies, the money values of pagan production are high, but the overwhelming importance, in money terms, of farm and other production for home consumption stands out very clearly in any attempt to assess the total production.

The economic picture, before the period of depressed prices in the 'thirties, among the 70,000 Bi-Rom pagans who occupy some 1,200 square miles in Vom and neighbouring districts in the Jos division, may be summarised on the basis of the 1927 assessment data in terms of the value of annual outputs per family unit of father, mother and 1 to 2 children:¹

TABLE XXXVII
ESTIMATED ANNUAL VALUE OF HOUSEHOLD OUTPUT FOR
SUBSISTENCE AND SALE, VOM AND JOS, PLATEAU PROVINCE,

1927

	<i>Home Consumed</i>			<i>Marketed</i>		
<i>Farm Production:</i>	-	-	-	£	s.	d.
Acha (1,500-2,000 lb. at c.0·8d. per lb.)	5	10	0			
Millet, pumpkins, etc.	-	-	-	4	0	0
						5 0
<i>Stock:</i>						
Goats, chickens, etc.	-	-	-	10	0	
Cows and/or horses	-	-	-	10	0	
Sylvan produce, fruits, firewood, etc.				5	0	10 0
Women's spinning, weaving, matting, etc.	-	-	-		5	0
				£11	0	0
Mine labour by men	-	-	-			15 0
Farm labour by men and women	-	-	-			10 0
						5 0
				£11	0	0
				£1	10	0
				£12	10s.	

A number of striking contrasts with the northern grain economy are immediately apparent. In the first place, the plateau pagans have had no real cash crop. Small quantities of 'acha' or millet and occasionally guinea-corn will be sold to the alien mine workers to obtain needed cash.² Thus, a much higher proportion, in fact nearly all the production within the community is for home consumption and exchange production is largely confined to economic activity in connection with alien developments and particularly the mine-workings. These have not only provided a direct opening for pagan labour but, through the introduction of alien communities, have created a demand for farm labour as well as for firewood and sylvan products. At local prices the value of this exchange production does not amount to more than 10 per cent to 15 per cent of the value of total family output.

The activities of specialists within the pagan communities contribute to internal not external exchange. This small minority is said to be excep-

¹ Actually as has been seen the farm unit is generally larger and consists of a compound of several 'families'.

² Sales to pagan mine workers do not generally arise since these nearly all live in their own villages and go daily to work during slack periods on the farms.

tionally well-to-do as a rule and to engage in money-lending although assessment estimates of typical incomes have been put at only £10. It is not clear whether this is additional to an income from a subsistence farm production little below the average. Women potters in such centres as Kwal, who do no domestic work but take more or less their normal share of compound farm labour, were thought to earn about 15s. per annum.

Polygyny appears to be rare save for the heads of family groups, while there are indications that, although fertility is fair, infant mortality is high. For this reason the family unit which has been taken as the basis of the above calculation is small, consisting of only a man and wife and one or two children or three adult units.¹

The available data on the farm harvests suggest that the food supply is meagre. Thus, the average grain yield per active man, according to the report referred to above, in Machi district where 'acha' and 'tamba' alone were grown, was only 2,235 lb., or roughly 2 lb. per day per adult unit. The production in Vom district, where millet is also grown, gives rather lower quantities.² It must be remembered that not all this grain would be available for daily meals since considerable amounts are required for beer which is to some extent a dietetic counterpart of the milk generally available elsewhere in the north.

There are indications that the farmed areas and the crop output per man are increasing in some areas. This is probably connected with the growing market for farm produce and the increasing need for money to satisfy new demands for purchased goods. Until recently the pagans have had little or no demand for the latter. In particular they still have little use for cloth, since both men and women go almost naked and their decorative attire, like their implements and utensils, are produced within the village or district. The tin-mining industry on the plateau was estimated to be occupying about 45,000 people in all, most of them strangers, during pre-war years. This large body of wage labourers is an obvious inducement to the development of pagan agriculture, more especially as much of their food has, hitherto, been imported from the lowlands.

No reference has been made in the foregoing account to economic relations between the pagans and the Fulani pastoralists, who have been attracted in large numbers to the open, fly-free grasslands of the plateau.³ The traditional attitude of the pagans to the Fulani has been one of apprehensive hostility. Some were raided in the past for slaves; all have suffered loss of

¹ The histories of eighty-two Bi-Rom women of various ages showed that, while the number of pregnancies appears to be fairly high, infant mortality (before walking) is over 50 per cent.

² Viz., c. 1,620 lb. of acha and 375 lb. of millet (assuming for the latter a rate of 500 lb. per acre and an area of $\frac{1}{2}$ acre) = 1,995 lb.

³ Fulani economy itself is discussed elsewhere; see pp. 199-211.

crops from the trampling of straying cattle. On the other hand, they have seen no value in cattle manure which is held to be positively injurious to the 'acha' crop. This hostility and suspicion of the pagans towards the Fulani, who have been coming into the area for both seasonal grazing and all-year occupation in greatly increasing numbers with the establishment of settled administration and the growth of a market for dairy products among the alien population, have further complicated the problem of economic advance on the plateau.

It is estimated that there have in recent years been some 100,000 cattle on the plateau in the wet season of which about 30,000 remain in the dry season. In the past, the Fulani have grazed at will. In relation to both pasture land and pagan settlements, there appears to be a mal-distribution of cattle, no doubt occasioned by the increasing concentration of both Fulani and pagans near town and mine markets. Already greatly increased erosion induced by over-grazing is reported from some areas and has intensified the evil effects of deforestation through heavy cutting for firewood. Moreover, a very large aggregate amount of cattle dung continues to go to waste.

Plans to integrate Fulani stock rearing with the improvement of pagan farming and the general development of the plateau are, however, being formulated and tested by the local officers of the technical services. Since both the pagans and the Fulani show reluctance to move to new areas, attempts are being made by a Provincial Development and Welfare Board to work out rotational grazing and cultivation systems to which both the pagan and the Fulani groups will agree. Some links have already been established between pagan village head-men and Fulani who have made the payments for grazing rights in the past. The original plan was to demarcate definite tracts within a village territory to be reserved as fallow open to grazing for given periods and to require grazing to be confined to these. Half a dozen such tracts from $\frac{1}{2}$ to 2 square miles in area were delimited experimentally. But many difficulties have been encountered, including Fulani complaints of inadequate access to water; their reluctance to go to new areas; the inadequate authority of both pagan and Fulani head-men over their respective people and the pagan tendency to offer only sacred lands which, since they would not be cultivated, secure little prospective benefit to agricultural output. An attempt has therefore been made to begin at the other end. Co-operative farming groups are being organised among pagans who, in a rotation agreed with the Fulani, will farm the kraal sites used by the Fulani of a given area. It is hoped in this way to secure two seasons of fairly intensive manuring of a prospective farming area followed by the cultivation of guinea-corn and millet on this enriched soil.

At the same time, the Fulani are themselves becoming more sedentary under the conditions of greater stability and a developing market for dairy

products. They are, to an increasing degree, remaining on the plateau in a given area throughout the year. These groups are also beginning to raise crops of bulrush millet and guinea-corn for their own needs and those of their stock. Both the pagans and the more settled Fulani are being encouraged to raise fat stock by stalling a few animals for hand feeding throughout the dry season. Prices for such stock have been very encouraging to this development. Finally, the pagans as well as Hausa and settled Fulani have been encouraged to cultivate potatoes (*Solanum* sp.) as a cash crop to be sold in Jos mainly for European consumption. The war which has so largely cut off imported supplies has greatly stimulated both these last developments for which seed potatoes have been issued on a considerable scale and it is believed that potatoes competitive in quality and price with imports can be established as a permanent cash crop. The more Europeanised urban population of the south are showing an increasing preference for them.¹

Thus, the indigenous economy of the plateau, although less developed than that of the Moslem emirates, lacking integration with that of the intrusive Fulani and threatened by impoverishment through the effects of excessive deforestation and over-grazing, has nevertheless opportunities of advance to a higher level of productivity. Not only can yields for home consumption be greatly enhanced by systematic manuring, but grain surpluses can be extensively developed for the large non-agricultural population within the area itself and potatoes can be produced for sale to the Europeans and to the growing numbers of Africans who are adopting Western food standards in Nigeria and perhaps also in the Gold Coast. Finally, the pagans' experience with dwarf cattle may provide a foundation for fat stock production of considerable proportions whereby they can add substantially to income and purchasing power as well as to the quality of their own diet.

3. THE FULANI

Most of the large horned cattle in Nigeria are in the hands of pastoral Fulani, although smaller numbers are raised by the Shuwa Arabs and Kanembu in Bornu who come to Lake Chad shores in the dry season. The total number of these cattle was roughly estimated at five million in 1939.²

¹ The success of the development of ginger cultivation among pagan groups in southern Zaria is not without significance for the future development of the plateau. Production of this largely alien crop, which requires very careful preparation for the market, has been achieved in a very short time, an advance which indicates both aptitude and responsiveness to opportunities for cash crop production on the part of pagan groups, whose conservatism has on occasion been over-emphasized. For further information see chapter on the Policy Governing External Trade, Vol. II.

² The census estimate for 1931 was over 3 million and for the northern provinces alone was 2,988,000. These figures are, however, thanks to the skill of the Fulani herdsmen in evading assessment for cattle tax, likely to have been much below the actual numbers.

The many thousands of herds into which they are grouped are almost ubiquitous in the northern provinces and are to be found pasturing from the remote confines of Sokoto and Bornu to the plateau of Bamenda in the southern part of the Cameroons under British mandate. Save at the height of the dry season, however, most of the herds are concentrated in a northern belt running through the provinces of Sokoto, Kano, Zaria, Bauchi and Bornu. On the north, cattle herders from French territory migrate seasonally across the border and sell some of their stock in Nigerian markets. On the south, there is a continual outward flow of cattle into and through the humid belt to the large urban markets on and near the coast. These southward moving droves are thinned in their progress not only by very heavy mortality in passing through unhealthy country, but by sales at market centres through which the drovers pass.

By no means all the Fulani participate directly in the northern pastoral economy. In the first place Fulani groups succeeded in the past in establishing themselves in many areas as an aristocracy over the agricultural population, becoming a sedentary ruling class which, while often continuing to own cattle, has in varying degrees assimilated the economic values, standards of living and social attitudes of the agricultural communities they dominated. Furthermore, economic pressure and new opportunities have induced many formerly nomadic communities to undertake agricultural production in increasing degree until the point is reached at which pastoral activities and even ownership of cattle are confined to a section of the group which is now predominantly sedentary and agricultural.

The numbers of Fulani speaking people in northern Nigeria may be roughly estimated at 700,000.¹ Of these perhaps two-thirds depend mainly on pastoral activities for their livelihood and are concerned in the seasonal migrations of beasts and men in search of the best pastures. The cattle Fulani (Bororo) clearly display their distinct racial origin and remain intensely conscious of their separateness as a people. In this way they are distinct from the settled Fulani among whom a considerable amount of interbreeding and cultural contact with the non-Fulani population (Habe) had taken place before the British occupation and has continued at an increasing rate since that time.²

(a) SETTLEMENTS AND SEASONAL MOVEMENTS

The traditional economy of the cattle Fulani involved almost complete dependence on livestock products, their other supplies being secured by

¹ The 1931 census returns indicated 9 per cent of the 11·4 million people in the northern provinces as Fulani speaking, but this was regarded as excessive and 6 per cent was held to be a more reasonable estimate.

² Inter-marriage with the Kanuri (or Beri-beri) and other northern peoples with whom there were 'relations in spirit', and slave concubinage have also been frequent among many Bororo Fulani groups.

exchange with sedentary agricultural communities. Despite an increase in agriculture among the pastoral groups, stock rearing maintains its primacy and most Fulani communities are still nomadic, ranging over several hundred square miles of country in the course of the year. They maintain permanent hamlets as homes for their sick and aged and bases for farming. But the combination of farming with nomadic pastoralism is by no means easy, since the need for farm work at particular times restricts freedom of movement in search of pasture, and, in general, the Fulani confine their agriculture very largely to the raising of a quick growing 'gero' millet crop for which, unlike guinea-corn, it is not necessary to immobilise a large part of the labour strength for long periods.

The typical Fulani migration unit is quite small. It consists of some ten to twenty households, whose heads are mostly men of a single patrilineal lineage, led by the most senior of these kinsmen or by one who is outstandingly rich in cattle. Although its seasonal movements may be undertaken in partnership with other groups, it remains both economically and in its other affairs essentially an autonomous unit. In relations with the emirates and Nigerian administration, it is subject to the authority of village and district head-men, and in particular is responsible to them for payments of cattle and, where crops are grown, of general tax.

The 'home' settlement is usually found in an area providing suitable wet season pastures and water supplies. Here stock are grazed as far as is required on plots which are to be planted in the coming year. The herds remain near the settlement in order that labour may be available during the planting period. Following the onset of the rains, however, both the protection of the sprouting corn and the risks of stock infection in the more humid riverine areas which are usually selected for winter grazings make it necessary to begin the annual cycle of migration, and during this advantage is taken of pastures that are available only during the dry season.

The extent of the migration varies very considerably both from area to area and from year to year, but most Fulani groups have established a routine of movement and regular economic relations with the agricultural peoples through whose territory they move. In the Gwandu emirate of Sokoto province, for example, which extends for some sixty miles north-east of the Niger, the cattle are concentrated on the marshlands flanking the upper Kebbi tributary in the early part of the dry season. In January, a gradual movement southwards down the Kebbi towards the Niger begins as the more northerly grazings fail. Herds from the Sokoto and Argungu emirates still further north which have come into the area join in this movement and many thousands of beasts are involved. In May, as the rains develop, the movement is reversed and migration away from the riverine lands begins. The herds scatter widely over the country and are almost continually on the move for four to five months, sometimes travel-

ling as much as fifteen miles in a day. By September, the water supplies of these areas begin to fail and the return to the riverine areas coincides with the harvests not only of the Fulani themselves but of the sedentary population of this area. With greater freedom of movement over the stubble, the cattle are welcomed by the settled population for manuring their lands in the well-cultivated country along the Niger and lower Kebbi river.¹

Agreements are made and often continued for several years whereby a group of Fulani, in return for a gift made to the head-men of the villages or districts through which they pass, are free to graze their cattle on the unfarmed lands. They in their turn receive payments from particular farmers for keeping their cattle on fallow land. Such payments usually consist of supplies of grain from the farmer's harvest. During this period, too, the sale of surplus dairy produce is facilitated by the proximity to markets, although Fulani women also walk many miles from remote pastures in the wet season to market centres where they can dispose of their sour milk and butter.

In some areas the wet and dry season pastures are separated by considerable tracts of well-farmed country. Since these are largely occupied by standing crops on both the outward and inward journeys, the Fulani are often required to keep their moving herds to recognised cattle ways, zones sometimes several miles wide, in which no crops are planted. Despite the far-reaching contrasts in ways of life and mental outlook and the conflicts over crop damage, the sedentary farming population in general welcome the arrival of Fulani for the highly valued manure, milk and meat supplies which they bring.

(b) CHARACTER OF PRODUCTION

The pastoral Fulani themselves operate with the minimum of equipment. The semi-permanent wet season settlements are a collection of a dozen or so roughly made beehive huts of light poles and grass, while the temporary dwellings occupied during migrations are conical shelters quickly made of millet stalks. Their own craft production is very small; a few brightly decorated gourd vessels with an armful of skins, cloth and miscellaneous implements complete the equipment of a pastoral household. Women buy cotton, which they spin and resell as yarn to the Hausa, but they make no cloth. Most Fulani rely to a considerable degree on Hausa and other sedentary agricultural communities for much of the grain which they use throughout the year. During the migratory period supplies are purchased or received in payment for milk products, while a surplus is generally accumulated from payments for bringing cattle on to

¹ Sharwood Smith, B. E., *Report on the Cattle Owning Fulani of Gwandu District, Sokoto Province*, 1933 (unpublished). For a more general but most useful account see de St. Croix, F. W., *The Fulani of Northern Nigeria*, (Lagos), 1944.

the farmlands after harvest. These together with their own meagre crops of 'gero' carry them through the dry season.

No adequate study of the domestic economy or diets of the pastoral Fulani appears to have been made, but they probably consume a good deal less grain than the ordinary farming community in northern Nigeria and rely to a correspondingly greater degree on milk supplies which they produce themselves. The Fulani do not butcher or market meat and they rarely eat it themselves, save on ceremonial occasions. So great is their aversion to killing their own stock that it is normal practice to purchase a beast from another group for a feast. Occasional small supplies of meat are obtained by purchase in the markets.

Surplus dairy produce is normally disposed of by the women of each household who use the proceeds to obtain salt, corn, rice and minor household needs. A woman is expected to be able in normal circumstances to provide all the supplementary food requirements of the household as well as her own and her children's clothes from her sales of milk and butter. Women also participate in decisions concerning cattle transactions; indeed, it is reported that in Sokoto a cattle sale is held invalid if the wife of the owner refuses her consent, but the nature of women's rights concerning the use and disposal of cattle is somewhat obscure. Supplies of bran and natron needed every month or so by the stock have to be purchased by the men from their receipts on the sales of stock.

The herd possessed by the individual Fulani is usually quite small. The averages of size in several series of herds recently investigated in Sokoto province ranged from 20 to 22, while the general range appears to be from 10 to 30 beasts. A typical Fulani herd can therefore be taken as comprising some 20 grown cattle, but on the other hand a small minority have much larger herds and employ Fulani with few or no cattle of their own to tend them. Dependent herdsman generally enjoy all the dairy products of the herds they tend, sharing the offspring by agreement with the owner. The cattle themselves differ widely in hardiness, milk yields, pasturing needs, and susceptibility to particular diseases.

At the end of the nineteenth century large herds of several hundred head in single ownership were quite common, but rinderpest, which appeared in northern Nigeria about 1885, wiped out large numbers of stock and became endemic under the conditions of free movement provided by the British administration. Herds are believed to be only now recovering from these onslaughts, while, despite steady advances in knowledge and provision of treatment, the conquest of other diseases, of which the tsetse-borne trypanosomiasis is the most serious, has by no means been fully achieved. Eighty per cent of cattle mortality is still attributed to rinderpest and trypanosomiasis and the development of inoculation services to combat them still constitutes the major task of the Nigerian veterinary service. Success depends on the widespread provision of mobile inoculation units

over the areas of cattle movement and, since, until recently much risk attached to inoculation, particularly in the case of rinderpest, great tact has been needed on the part of the veterinary staff.

The estimation of the market values of produce, the rates of stock increase and the annual income derived from Fulani herds involves a number of complex and often uncertain factors; but some recent investigations in Sokoto province make possible a general indication of the economic position of what appears to be a fairly typical sample of the pastoral Fulani.¹

It must be emphasised in the first place that the market value of cattle shared in the deep depression of prices of the last decade and declined even more sharply than the prices of cash crops. The economy of the pastoral Fulani has therefore been operating under great strain. The composition of 160 herds investigated in 1933 together with further data for other parts of Sokoto province suggested that a typical herd of 20 cattle would include from 9 to 11 fertile cows and calving heifers yielding an average of 8 calves per annum. That the fertility of cows could be much improved and the calf mortality reduced have been demonstrated by breeding experiments under conditions believed to be attainable among the Fulani, and a marked advance in stock increases would result from a reduction of adult and infant mortalities to 7 per cent and 12 per cent respectively. At the period of these investigations stock prices were only 25 per cent of what they had been only a few years before.² The sales of stock appear to have been equal to or rather greater than the amount of stock increase so that there was little tendency to net increase in the size of herds and in some areas there may have been a decline likely to have serious consequence on the future composition of herds. In one considerable sample the very small number of bulls was generally attributed to heavy sales to meet cattle tax demands to which further reference will be made below. The average value of a number of admittedly discrepant estimates of annual stock increases was approximately 11 per cent. Mr. Sharwood Smith's estimate of annual sales is approximately equivalent to this rate of increase, so that, as practically all the animals sold (95 per cent in this survey) go to butchers and not to other Fulani, herds as a whole were about stationary in size.

Estimates of the effects of sales on the future composition and size of herds involve a number of assumptions and calculations, for which it is difficult to obtain full and reliable data. In reckoning the annual returns of a stock owner, his sales of live and slaughtered beasts and any retained in-

¹ Sharwood Smith, *op. cit.*

² Up to 1939 they appear not to have risen substantially from these lower levels at which bulls sold for from 10s. at 1-2 years to 28s. fully grown (4-10 years), and cows for from 12s. at 1-2 years to 25s. or less fully grown (4-10 years). In 1928, on the other hand, a good cow or a stud bull had been worth from £5 to £7. Calves under one year had no market value.

crease have to be taken into account, while sales not replaced by increase, or which lessen the future reproductive power of the herd, represent a loss of working capital. The normal breeding profit, including that from sales of slaughtered animals, from a herd of twenty beasts of what appeared to be typical sex and age composition was about £2 12s. 9d. in 1933.¹

The value of dairy products is even more difficult to estimate on the available data, as milk yields vary enormously according to breed, health and grazing conditions. A good cow in Sokoto is said to yield up to 1 gallon of milk per day which would produce about $\frac{1}{2}$ lb. of butter. But the yield will drop to half towards the end of the dry season. Lactation periods, too, are very variable round a mode of about nine months. Furthermore, the marketability of dairy produce varies greatly and the prices received range from very low values in a large and remote bush cattle camp to the very considerable prices paid in large towns. Sour milk accordingly fetches from less than 1d. to as much as 3d. per quart and butter from 2d. to 4d. per pound. Urban prices are usually obtained only at the cost of long journeys. A mean of various estimates of the total value of the dairy produce of a single family herd at average prices was about £6 10s. in 1933. Unlike the net stock increase, however, by no means all of this is available for sale since much of the milk and butter are needed for household food.

The only other regular and considerable source of income from stock is derived from manuring. Of the period of about five months from December to April in Sokoto, when cattle and land are both available, as much as half is often devoted to the owner's own plots. For a herd of twenty cattle kept on a farmer's land, a return of about 1s. per week in corn and other foodstuffs would be received. If the value of the manure for the whole period is estimated at this rate the gross value will be about 21s., of which about 10s. will be cash income and the rest received in crop returns from the Fulani's own farm.

No estimate of the typical yields of Fulani farm plots are available, but assuming two acres of 'gero' yielding 1,000 lb. in all for a one-man household, the value would be about £1.² Finally, women secure a return of a few shillings in the year for their spinning.

A Fulani household output under favourable conditions in the thirties can be roughly valued as follows:

¹ Estimates by Mr. Sharwood Smith and Mr. de St. Croix were £122 and £142 per 1,000 head, but the latter alone included returns for sales of slaughtered beasts.

² No data for local prices of 'gero' in Fulani communities or local markets are available, but it would be worth less than guinea-corn whose harvest price is from 12s. to 13s. per 500 lb. in outlying northern areas; cf. Kazaure estimate of 13s. *supra cit.*

TABLE XXXVIII

ESTIMATED ANNUAL VALUE OF OUTPUT FOR SUBSISTENCE
AND SALE OF FULANI HOUSEHOLD WITH HERD OF

20 CATTLE, c. 1930

Composition of household: c. 5 adults plus children

	<i>Home Consumed</i>			<i>Marketed</i>		
	£	s.	d.	£	s.	d.
Stock ¹ - - - - -	-	-	-	2	12	0
Dairy produce ² - - - - -	3	5	0	3	5	0
Manure (included in crop value) - - - - -	-	-	-	10	0	-
Farm crop - - - - -	1	0	0	-	-	-
Spinning - - - - -	-	-	-	5	0	-
	£4	5	0	£6	12	0
	£10 17s. 0d. ³					

This income would at first sight appear considerable in comparison with that of a typical farming household in the north, more particularly since it is approximately net as allowance has been made for the maintenance of the value and reproductive capacity of the herd. On the other hand, the necessary outlays in cash or kind are in general more considerable than those of the farming community. A great part of the grain supply of a Fulani household has to be purchased with cash or kind. Although the herdsman is in a strong bargaining position in relation to the farmer when exchanging manure for corn or bartering dairy produce, unforeseen events and the circumstances of the season may make the establishment of contact at the right time difficult, quite apart from the risk of catastrophic losses of stock in epidemic years. Moreover the produce of a herd is, in general, more uncertain than that of a farm.

Finally, the cattle tax to be paid on each beast requires a considerable cash sum. At 2s. per beast it will amount to about £2 on a herd of twenty, excluding calves. It will be seen, therefore, that an exchangeable surplus of the value of £6 12s. per annum estimated above does not represent a correspondingly substantial purchasing power. Such an estimate, moreover, allows for no retention of stock to build up the herd over a period of years and so increase the household income and insure against losses. It allows only for the bare maintenance in ordinary circumstances.

There are, in addition to the Bororo, sheep-herding Fulani known as Busije or Udawa. They are not a closed ethnic group and recruits from

¹ No reference is made to hides since the Fulani normally sell the whole beast and do not flay or butcher.

² In the absence of data on the proportions of the produce to be expected from a herd of this size which are self consumed and sold, the return has been arbitrarily divided equally among these two categories.

³ The government statistician's estimate of the value of a Fulani household output with a herd of this size is £10, but no allowances are made for the value of crops and spinning.

among the cattle-owning Fulani who have lost their stock are readily accepted as herdsmen, who often seek to build up flocks of their own. There will be about 100 beasts in a single flock of fair size and for this the help of a second herdsman would be required. At the sheep prices of the 'thirties, which were only half those previously obtained, such a herd would be worth about £13 15s. and has been estimated, assuming a 50 per cent increase in the number of head, to yield an annual net breeding profit in Sokoto of about £7 13s. 6d.¹ Although sheep milk is not marketable, herdsmen themselves rely on it to a large extent for food and they are also paid in food by farmers on whose land they fold their sheep for about three months in the dry season.

Essential expenses consist of potash (*kanwa*) supplied to the stock during the wet season at a cost of about 7s. 6d. and native salt provided weekly at the height of the dry season costing some 15s. The tax-payment, reduced to 1d. per head of stock from a former level of 3d., will involve a further charge of 8s. 4d.

TABLE XXXIX

ESTIMATED NET RETURN FROM FLOCK OF 100 SHEEP KEPT
BY BUSIJE OR UDAWA FULANI, 1933

						£	s.	d.
Breeding profit (net)	-	-	-	-	-	7	13	6
Milk	-	-	-	-	-		7	6
Manuring	-	-	-	-	-		13	0
						£8	14	0
<i>Less:</i>								
Purchased supplies for stock	-			£1	2	6		
Tax payment	-	-	-	-	8	4		
							1	10 10
<i>Net return</i>	-	-	-	-	-	£7	3	2

No data are available on the extent to which the other members of the sheep-herding communities, who do not accompany the herdsmen on their seasonal migrations, produce agricultural supplies, but it would appear that although the life of the herdsman is said to be very much harder, economic conditions are not inferior to those in cattle-owning communities.

(c) HOUSEHOLD CONSUMPTION

A typical cattle Fulani household with a herd of normal size appears to be rather larger than the typical northern farming household. It has been put for northern Sokoto at five persons apart from very young children. As no data are available on actual consumptions of foodstuffs, clothing,

¹ Sharwood Smith, *op. cit.* Appendix.

etc., by the pastoral Fulani, or on the prices paid for those purchased, only the roughest estimate of the cash values of expenditures can be made, but the following assumptions appear reasonable. A household of the size referred to above, if it included three adults and two grown boys or girls equivalent in all to four adult units, would require—even allowing for a considerable consumption of milk products—at least as much grain again as the 1,000 lb. allowed for its own plot. This would be purchased or obtained by barter in small amounts between harvests, when grain prices were high and would probably cost considerably more than the value allowed for the household's own produce. A total outlay of from 30s. to £2 is quite probable. Purchases of meat through the year including feasts would cost up to 10s., while a further 5s. would be required for the minimum purchases of salt and other relishes. The monthly supplies of natron and bran for the stock would probably cost a further 10s. Men require every second year at least one of the long gowns of thick Kano cloth in which they wrap themselves in the cold weather. Smaller cloths for themselves and their wives would be required in most years so that an annual household outlay of 15s. on clothing would be near the minimum. We thus arrive at the following total of essential needs for a typical household to be secured from the marketed surplus:

	£	s.	d.
Additional grain supplies - - -	1	15	0
Meat - - - - -		10	0
Salt and relishes - - - - -		5	0
Natron and bran for stock - - -		10	0
Clothing - - - - -		15	0
	£3	15	0

From the balance of £2 17s. there has to be paid not only the cattle tax (*jangali*), which at the reduced rate of 1s. 6d. introduced in some areas in the early 'thirties would amount to £1 10s., but also the general head tax payable by all farming Fulani which would probably amount to another 5s. or 10s. according to the number of taxable males in the household. Thus, a margin of only £1 or less would remain for all 'non-essential' expenditure and emergencies, while at the earlier *jangali* rate of 2s. per beast practically no margin would exist.

(d) THE CATTLE TAX

The cattle tax constitutes a most important problem for both the Fulani themselves and for the administration in northern Nigeria. It continues an indigenous system of taxation which contributes a very substantial proportion of the public revenue. Thus, the tax on Fulani cattle yielded approximately 26.5 per cent of the native administration revenue of

Sokoto in 1933.¹ The total amount of the cattle tax has been about £300,000 per annum (from about five million cattle) in recent years. The established principle by which the burden of the cattle tax is judged is that it should approximate to 10 per cent of the value of the annual profits on stock. In consequence of the fall in cattle prices and fears concerning the maintenance of herds the rate was lowered from 2s. to 1s. 6d. in the early 'thirties, but there was reason to believe that it still exceeded 10 per cent of profits. Mr. Sharwood Smith's data suggested an incidence of nearly 14 per cent and his estimate of profits was also criticised as too high. At the estimate of a mean profit of 10s. per head of stock from breeding increase, dairy products and manure, the incidence would be 15 per cent. A slight mitigation was afforded by the remission in 1933 of the fees of 1s. per head formerly charged for cattle inoculation.

The Fulani have themselves complained that they have been forced to sell stock beyond the limit necessary to maintain their herds and insure against risks in order to meet their *jangali* payments. In an attempt to maintain their herds they have even, in some cases, attempted to grow a grain surplus for marketing as well as rearing sheep in their home settlements for sale. In any case, it is fairly clear that at the prices and tax incidence of recent years they have in general been selling off stock every year at a rate at least equivalent to and perhaps somewhat higher than the natural increase, so that there has been little opportunity of increasing the size of herds. Indeed, but for the veterinary advances made during this period, an obvious decline in stock numbers might have been observed.

The policy of establishing mobile veterinary camps in the Fulani grazing areas was just being applied when the severe fall in cattle prices began. The Fulani themselves have increasingly recognised the value of veterinary service in improving the health and survival of their stock. A beast successfully inoculated against rinderpest was said to be saleable for breeding purposes at as much as 50 per cent above the ordinary price. The Fulani of Gwandu in Sokoto admitted in 1935 that, despite their economic difficulties, with the improvement in the health of stock and especially in the reduction of calf mortality in herds inoculated against rinderpest and trypanosomiasis, their cattle were at last after many years again on the increase. It appears, therefore, that in some areas at least veterinary advances have in some measure counterbalanced the effect of

¹ Cattle are counted and the tax is collected in the period from July to October inclusive, calves born after the count being exempt for that year. The head-man of the settlement in which a group of Fulani have their farm plots is usually responsible for reporting on the stock and for the collection of tax. It is often suggested that there is great opportunity for evasion of part of the tax through incomplete returns but this may not be open to any considerable number of Fulani since, despite their migratory life, they are tied to a fairly rigid cycle of movements and returns for a particular area are checked by the district head and any marked discrepancy or anomaly is investigated by the administration.

depressed prices. But this serves only to emphasise the need for economic rehabilitation alongside the improvement of stock.

(c) FUTURE DEVELOPMENT

Although the closer integration of livestock with agriculture, as described earlier in connection with mixed farming, is one of the most promising lines of long-term development in northern Nigeria, it must not be imagined that this will involve the early disappearance of the dominantly pastoral Fulani economy. The proportion of settled Fulani who are predominantly cultivators may continue to increase, but the numbers of the cattle under the control of the pastoral groups will for long continue to be far larger than those in the hands of mixed farmers; indeed they will continue to provide the reservoir from which these will be drawn. Moreover, an increase in the size and quality of the Fulani herds is necessary for the increase in meat consumption which is so badly needed in the south as well as in the north to raise the protein levels of native diet.

In recent years the pastoral Fulani have been caught up in a vicious circle. The fall in cattle prices has severely reduced the cash incomes from a given level of livestock sales. On the other hand, revenue needs have delayed and limited the reduction of the cattle tax. These have necessitated increased sales to meet tax-payments and other outstanding expenditures which have prevented the building up of the stock population after the heavy losses of the great epidemics earlier in the century. With an improvement in cattle prices and continued advance in veterinary services, the Fulani will be able to raise both the numbers and quality of their herds. The selective breeding of cattle has hardly begun in Nigeria and the possibilities of advance are immense, but their realisation will require a considerable time. Meanwhile, the meat production from the Fulani herds has probably in recent years been near the maximum which could be achieved without serious stock depletion, so that the increase in beef supplies, like that of hides for export, will depend on an advance in the stock population. No sudden increase in meat supplies from the Fulani cattle can be anticipated, however well planned and prosperous the post-war development of Nigerian economy may be.

The Nigerian veterinary service believes, however, that a considerable improvement could be achieved by the establishment of simple demonstration units which would encourage pastoralists to improve the condition and weight of their beasts by fattening them on fodder crops of grain, hay and ensilage, especially during the dry season. This would make possible a reduction in the time and distance of seasonal migration which is needed to allow for the additional cultivation, and which would itself tend to improve the condition of the stock.¹

¹ Henderson, W. W., Director of Veterinary Services, in *A Scheme for the Economic Development of the Livestock Industry in Nigeria*, 1940 (unpublished).

Experiments in feeding cattle with ground-nut tops and bean straw in addition to small amounts of guinea-corn and bran have shown that it is perfectly feasible to raise the weight of white Fulani cattle from 550 lb. to 750 lb. in three months. The maximum weight of a fat bull after longer fattening is about 1,200 lb. Some Hausa butchers already follow this practice, paying a farmer to keep and feed an animal from his farm waste together with a little purchased bran. Needless to say the widespread adoption of such methods would increase the meat production far more rapidly than could ordinary mixed farming, where the beasts are put to the plough and their primary purpose is to provide labour and dung.

It should be added in this connection that the general introduction of small-scale cattle rearing among the farming population offers a further opportunity. With a single 2-3 year old beast worth 35s. at purchase, a farmer could keep 3-4 acres of land manured by means of rotation and composting. It could be fattened largely on crop tops and would at pre-war prices be worth £4-£5 when its weight had increased by 200-300 lb. in 3 to 4 months. There is already a native fattening system practised by well-to-do farmers in Bauchi province.

Another obvious opportunity for development lies in the improvement of the amounts, quality and marketing facilities for Fulani dairy produce. In the past, practically all the surplus has been sold piecemeal as sour milk or butter in town and country markets to which the Fulani have had access. There is every reason to believe that the local markets for milk products would expand very greatly if the numbers and yields of milch cattle were raised by selective breeding, and if the requisite purchasing power were at the disposal of the population of the towns and farms. Sour milk is a traditional staple of diet throughout the north save in the remote pagan communities and there is every ground for encouraging the greater and more regular consumption of so valuable a protective food. Now that rinderpest control is giving a greater sense of security, the Fulani are showing a remarkable readiness to cull inferior animals earlier and to accept European principles of breeding for quality. There is, therefore, every reason to be confident that with more veterinary research and instruction it will be possible, so long as adequate prices can be maintained, to make a very substantial advance in the milking qualities of Fulani cattle by selective breeding.

Meanwhile a beginning had been made by 1939 in developing an export market for milk products in the form of clarified butter fat, and a home market for butter and cheese, sold mainly to Europeans. Details of production and output will be discussed in Chapter VIII.

Chapter V

CONCLUSION: SOCIAL PROBLEMS IN THE DEVELOPMENT OF NATIVE ECONOMIES

It may be helpful to bring together here some of the wider questions which have recurred throughout this survey and to indicate as succinctly as possible the broader issues involved in the economic development of the rural communities of Nigeria.

In the first place, the system of rights in land and other property will require adjustment. Permanent cultivation, plantations and the use of more elaborate equipment all involve considerable increases in developed land values. On the one hand, the developers, whether individuals or communities, will need adequate security of tenure to induce them to act. On the other, greater exclusiveness and individualisation of rights under the conditions created by development may require checks on tendencies towards speculation and socially useless landlordism. The effect of reforms upon the position of the chiefs and elders in the allocation of land will present difficulties in some communities. The practical problems are likely to vary greatly according to differences in existing systems and the rate of development. Thus, where, as in some areas, land is held in common by kin or village groups and frequently re-allocated, greater individualisation of tenure will be needed to make permanent cultivation possible. Past experience suggests that this would not be likely to meet great resistance, but formal acceptance and recognition by the community of changes in customary rights and positions of authority will be necessary to avoid social friction and litigation resulting from conflicting rights. Where *de facto* purchase and sale of land has already developed, as in some Ibo and Yoruba areas, legal recognition, registration and clear procedures for conveyance will be increasingly needed to avoid difficulties as values increase and inheritance issues accumulate. On the other hand, limitations on personal property rights are likely to be necessary to prevent obstruction or exploitation of publicly approved policies, and it is important that they should be provided for before new vested interests are deeply entrenched.

Secondly, there is urgent need for an increase in the scale of organisation. To meet the need for orderly and economical development, and to make the fullest use of the services which this demands, the size of the unit of economic organisation will probably have to be larger than that found to-day. One of the outstanding social problems will, therefore, be to pro-

mote continuous co-operation between a number of small communities, formerly autonomous.

Co-ordination of development will be required on a still wider scale throughout areas of special economy, for example, the cocoa belt or the food supplying hinterland of an urban area, such as a port. Effective collaboration of native authorities and the readiness of individuals to accept advice and adopt new methods will be greatly affected by the extent to which an enlarged community sense can be developed. But this in turn will require new modes of collaboration between communities and reduction of old jealousies by the establishment of new common interests. Time and energy devoted to education in new opportunities and in enlarged social, as well as strictly economic, activity will, therefore, be well spent. This points to the need for adequate provision for community education; for visits by technical experts and responsible officials to native councils; for facilities for representatives of native authorities and other local bodies to visit new projects of all kinds in more developed areas and the encouragement of joint meetings between native councils in areas likely to be affected, prior to planning and budgeting for their separate communities.

Thirdly, there will be need for adjustments in social structure to allow for the rise of new leaders in the local community. If the economy of the rural community is to be transformed by introducing new techniques, higher levels of productivity, greater variety of production and more division of labour, there will be a parallel need for supervising the consequent modification of the social structure. If social adaptation is delayed, cohesion will be reduced and regulation will come to depend increasingly on external agencies: the ideal of increasing local self-government, which both officials and Nigerians are being taught to foster, will recede. The crux of the problem lies in the fact that, to a large extent, the prestige of the established leaders is bound up with the traditional productive system and the native institutions by which it was regulated. Already new productive activities tend to operate outside this framework, bringing wealth and independence to energetic and often young men who lack high status in the traditional social organisation: such are many of the palm-oil, kernel and cocoa buyers in southern Nigeria, and the cattle wholesalers, company agents and ground-nut and kola traders in the north. The resulting tendency is for the 'new men' to be excessively individualistic because they are not responsible leaders, and to seek to undermine and supplant the traditional authorities. To the extent that the older social framework and its leaders can be adapted for constructive development of new forms of economic activity, wasteful friction will be avoided and the risk of disintegrating the local community reduced. On the other hand, however, toleration of obstructionism on the part of the established social leaders will not only accentuate disruptive individualism and irresponsibility

on the part of the new men, but will also render government assistance and development plans suspect in their eyes.

Fourthly, it will be necessary to encourage and provide for higher mobility of individuals and groups. Although there is a serious and general lack of precise data on population density and soil fertility, it is clear that there is a considerable discrepancy between the populations of the various areas and their agricultural potentialities, and that a very considerable increase in total production could be secured by redistributing population, and especially by colonising undeveloped areas. It must be remembered that the natural and social factors which have interposed barriers to the adjustments of populations to resources under aboriginal conditions have, to an increasing extent, been eliminated by the establishment of unitary and ordered government over the country; by the development of transport giving access to hitherto remote areas, and by the removal of particular obstacles to settlement, such as endemic disease. On the other hand, government recognition of tribal land rights has tended to arrest expansive tendencies from closely settled areas which were at work before. Such a check has, for example, curbed the expansion of the Ibo on their northern and eastern borders. Economic and social development should, therefore, include surveys and plans for the re-allocation of populations to reduce congestion on the one hand, and to accelerate the development of wealth in under-populated areas on the other. The needs, opportunities and difficulties have been outlined in the discussion of the congested areas in the south.

At the same time economic development breeds greater specialisation of skills, and thus creates profitable opportunities for individuals to migrate to areas where their aptitudes are in greater demand or can be more fully employed. This would apply to skilled and successful mixed farmers in a district where the agricultural land available for development was restricted or costly, as much as to artisans or traders. Among the Hausa of the north there appears to be already, partly as a result of Islam and the political structure of the emirates, considerable mobility on the part of the rural population, while in the south the temporary migration of men, often with their households, to practise both native and modern crafts takes place regularly on a small scale; smiths, carpenters and tailors migrate to ply their trades in alien villages over the greater part of the south-eastern provinces; Sobo palm-oil producers are found as temporary tenants on the land of other communities. Furthermore, Ibo clerks and Hausa traders are found from one end of the country to another. With the growing diversification of the economy and especially the introduction of mechanised techniques, immigrant specialists will prove a most valuable means of establishing new forms of production.

On the other hand, as the proportion of immigrants to the native members of the local community increases, a serious problem may arise.

The resident immigrants are now usually a mere handful and extraneous to the local social structure: they are sponsored by local hosts, or protected by the administrative authorities: they take little or no part in local affairs and frequently leave after a short period. In areas of development they are likely to increase in numbers and, since their services will be continuously needed, may be expected to become permanent settlers. This is likely to apply particularly where small-scale industries are to be established and require the introduction of skilled managerial and technical personnel from without. But the traditional system of rights through descent to residence, land and membership of clubs and councils often makes no provision for their assimilation into the organisation, formal and informal, of local self-government. Immigrants are, however, likely on the whole to be energetic and progressive in relation to the existing rural population and if they are formally or in practice excluded from participation in local affairs, they may tend to become an irresponsible element, liable both to feel and to generate animosity towards the local population. There is, therefore, likely to be a need for investigation and supervision of ways whereby representation on community councils of various kinds can be transferred as needed from a kinship to a residential basis.

Finally, customary amenities and forms of social activity will have to be adapted to conditions in mainly industrial communities. If, as is assumed, it will be possible by advances in agricultural techniques and organisation to raise farm productivity per unit of labour very substantially, energy will be released for non-agricultural production. No attempt has been made here to deal with social problems concerning the establishment of factories in existing urban areas, especially since no adequate data for the study of the conditions, needs and potentialities of urban communities in Nigeria have been available for this book. But since it is likely that some, and perhaps a large part, of the manufactures developed in Nigeria will be small-scale light industries, requiring little power and so suitable for location in the rural areas producing raw materials—such as, for example, rope, ground-nut oil and cake—the social effects of the introduction of light industries into hitherto rural communities may require early consideration. Care will be needed to avoid any sudden swamping of the network of inter-personal relations characteristic of primitive agricultural communities by the intrusion of enterprises, whether public or private, which are both centralised and impersonally directed and divorced from the affairs and control of the community. Thus, besides the need for safeguarding amenities in such matters as housing, garden plots and health, there is a further need for organisations which will afford means for the smooth adaptation of social life to the needs of industry. Co-operative forms of production, close liaison between managers of enterprises and village councils and local supervision of the conditions of labour could all help to ease the adjustment to industrial life.

PART TWO

PRODUCTION FOR TRADE

BY DR. RICHENDA SCOTT

Chapter VI

PALM PRODUCTS AND GROUND-NUTS

1. NIGERIA'S PLACE IN THE WORLD MARKET

Oil has become one of the most vital necessities of the modern world, and is now put to a variety of uses. The oil which comes on to the world market, however, falls into three main groups, each of which may be regarded as constituting a separate and non-competing commodity. There is, first, the group of essential oils used in confectionery and medicine, e.g. peppermint, eucalyptus; secondly, the mineral oils, providing both lubricants for machinery and the various forms of fuel on which to an increasing extent modern transport depends; thirdly, the fatty oils, contained in the fruits and seeds of a number of trees and plants, in the fat of animals, and in whales and fish. These fatty oils play an important part in human diet, either when directly extracted, as in the case of olive and ground-nut oil, or, after further processing and combination with other materials, in the form of margarine and lard substitutes. They also have an important place in industrial production, principally in the manufacture of such products as soap and candles, and, in the case of palm-oil, to a small extent, as a flux in the tin-plate industry in both Great Britain and the U.S.A.¹

The world market for oils and fats, animal, vegetable, marine and mineral, has increased extensively since 1914. The demand for vegetable oils and oilseeds alone grew in Europe from 1,500,000 metric tons per annum prior to 1914, to 2,300,000 metric tons in the inter-war years, while imports of vegetable oils and oilseeds² into North and Central America rose from an annual average of about 60,000 metric tons in 1909 to

¹ The South Wales tin-plate industry in the inter-war years used some 1,500 tons per annum. The combined consumption of the U.S.A. and United Kingdom manufacturers is estimated at rather less than 20,000 tons per annum, the U.S.A. deriving its supplies for this purpose almost exclusively from the Belgian Congo, supplemented by a small quantity from Sumatra.

² Expressed as oil equivalents.

PRODUCTION FOR TRADE

1914, when the U.S.A. was still a net exporter of these commodities as a whole, to 600,000 metric tons in 1924-8. In 1935 and 1937, after the two great droughts experienced by that continent, the demand leapt up to something in the region of 1,000,000 metric tons.¹

The economic factors governing the demand for vegetable oils require some attention. They are complex, as they may, at times, affect one particular kind of oil, or even that part of its supply for which one country, such as Nigeria, is responsible.

(i) The price-elasticity of demand for oils and fats as a whole is low, so that relatively big fluctuations in price can occur without seriously affecting the total volume of consumption.

(ii) There is a high income-elasticity of demand among the poorer nations and the working class populations of all countries.

TABLE XL

TOTAL NET IMPORTS OF VEGETABLE OILS AND OILSEEDS
(THE LATTER EXPRESSED IN TERMS OF OIL EQUIVALENTS)
INTO THE PRINCIPAL IMPORTING COUNTRIES IN EUROPE
AND INTO THE U.S.A., 1909-1939²

ANNUAL AVERAGE (in thousands of metric tons)						
Country	1909-13	1924-28	1929	1930	1931	1932
Germany -	492.2	576.1	703.5	677.0	694.0	685.9
U.K. -	388.4	494.8	513.2	481.5	516.7	509.7
France -	318.8	382.4	432.1	468.9	449.2	456.8
Netherlands -	98.0	185.5	179.2	131.2	164.6	159.1
Italy -	30.2	169.3	156.0	106.0	187.7	149.7
Denmark -	35.5	67.6	71.4	71.8	75.6	57.8
U.S.A. -	60.5	603.3	875.7	736.9	676.4	489.2

ANNUAL AVERAGE (in thousands of metric tons)							
Country	1933	1934	1935	1936	1937	1938	1939
Germany	636.4	699.9	473.2	653.2	664.2	729.0	430.1
U.K. -	459.4	493.4	550.3	564.2	609.1	654.7	780.4
France -	523.4	475.1	466.5	530.1	528.0	510.0	464.0
Nether- lands -	108.7	139.5	121.5	130.3	101.5	129.1	180.0
Italy -	167.6	249.0	180.6	98.3	215.0	152.0	87.1
Denmark	63.6	66.4	74.6	80.0	72.0	77.2	89.0
U.S.A. -	733.2	592.2	953.7	877.4	1147.8	757.0	676.4

The 1939 figures for Germany and Italy are for January-July only.

¹ Net imports of vegetable oils and oilseeds into the U.S.A. in 1935 totalled 953.7 thousand metric tons.

² *Oils and Fats; Production and International Trade*, Studies of Principal Agricultural Products in the World Market, Nos. 4 and 5 (International Institute of Agriculture, Rome), 1939 (hereafter to be cited as *Oils and Fats*), pp. 328-9. Figures for 1937-9 kindly supplied by Messrs. H. M. F. Faure & Co. Ltd.

(iii) A very high degree of substitutability exists both between the different vegetable oils and between the vegetable and animal and marine oils and fats. Thus, the Empire Marketing Board found on enquiry in a large midland town of Great Britain that, after a fall in the price of butter, there was an increase of 15 per cent in butter consumption and a decline of 19 per cent in margarine consumption in 1931 as compared with 1928. Prior to the war of 1914-18, animal fats were used preponderantly in the manufacture of margarine and lard, and coconut oil was the only vegetable product of importance competing in this field. By the process of hydrogenation, however, it has been found possible to convert an increasing number of vegetable oils into edible fats; coconut oil and the animal fats have now to compete with palm and ground-nut products, cottonseed and soya-bean oil, while whale-oil, which had almost no place in this industry before 1914, was being used more and more each year before the outbreak of the second world war. In the manufacture of soap similar possibilities of substitution exist. Palm-oil was the chief vegetable product demanded in this industry before 1914, but, since the first world war, growing chemical knowledge and skill have introduced a number of competitors from other vegetable and marine sources and even derivatives from mineral oils are beginning to enter the soap kettle. Hence, it follows that the price-elasticity of demand for any one of these products is very high. On the other hand, the fact that they are used largely for manufacturing what are regarded as inferior substitutes for butter and lard, probably renders the income-elasticity of total demand for vegetable oils considerably lower, in the aggregate, than it would otherwise be, though it may remain high absolutely.

(iv) Many oilseeds and all the animal oils and fats are by-products of crops or livestock raised primarily for another purpose. Cotton and kapok fall into this category, the main object of these crops from the producers' standpoint being the fibre of the plant. Similarly, tallow and lard are by-products of meat production.

(v) Some vegetable oilseeds, such as ground-nuts, palm-kernels and cottonseed, yield in turn a very valuable by-product in the form of cattle cake. At times the demand for cake, which is dependent on the condition and price of fodder crops and on the general farming policy pursued in the various countries, may be an important factor in directing the trade in oilseeds, affecting the choice between different oil-bearing products. The demand for such commodities as palm or ground-nut oil is uncertain, because they are highly competitive with the oil from such products as kapok, cotton and tallow, the prices of which are effects, but not in any important sense causes, of the scale on which they are offered for sale. The variability of the demand for the by-products of palm and ground-nuts adds a further element of uncertainty. Thus, not only is the demand for palm-oil, for example, highly price-elastic, but it is liable to be highly

fickle (to which the high income-elasticity, of course, adds) and price fluctuations, despite the high price-elasticity of demand, are severe.

(vi) Economic sources of uncertainty are not, moreover, the only ones. National policies have played a very important part in the world trade in oils and fats since the depression of 1929. These policies have taken two main directions: first, an attempt by several nations to limit the growth of margarine consumption and so to protect the local dairy farmers; and secondly, an effort to stimulate home production of oils and fats or to increase colonial production for the home market as part of a general policy of national or imperial self-subsistence.¹ Thus, Germany, Denmark and the Netherlands in 1935 introduced measures to curtail the importation of foreign oils and oilseeds for margarine production and to include a high proportion of home produced animal fats in its manufacture. In Germany, the embargo placed on the imports of all vegetable oils and oilseeds in 1935, seriously disrupted the trade, and although it proved necessary to resume imports within a few months, this resumption was at a lower level and was not sufficient to employ the crushing mills at full capacity. Meanwhile, her total imports of oils and fats were maintained, with only a slight decline, through barter agreements with Norway, enabling Germany to purchase the bulk of the whale-oil stock and catch from 1933-4 and 1934-5. The proportion of vegetable oils used in the manufacture of margarine in Germany declined from 78.5 per cent in 1928 to 43.3 per cent in 1935, while the proportion of whale-oil rose from 15 per cent to 54 per cent.² A growing internal demand for oils and fats, coupled with a decline in whale-oil imports, led to an increase in the imports of vegetable oils and oilseeds in 1936, particularly in the case of copra and palm-kernels, but, except for the latter, the level of demand was much below that of 1924-30.

In Denmark, imports of foreign oils were restricted and finally reduced by half, though oilseed imports were encouraged to keep the crushing mills fully employed, both to increase the export of manufactured oils from the mills and to supply cake for the cattle.

France and the Netherlands met the problem of a shrinking world market for the output of their crushing mills, resulting from the general policy of restriction adopted in Europe, by curtailing trade in foreign oilseeds and fostering their own colonial resources for the home market. The result in both cases was a decline in the quantities of foreign oils and oilseeds imported after 1935.

The abandonment by the United Kingdom of her free trade policy in 1932 in the trough of the industrial depression, coupled with the Ottawa agreement later in that year, had important repercussions on the vegetable

¹ A more general discussion of commercial relations with foreign countries, from the aspect of trade policy, will be found in Volume II.

² *Oils and Fats*, Vol. II, p. 402. The proportion of whale-oil used was, however, exceptionally high in 1935.

oil market. A duty of 10 per cent *ad valorem* and upwards was imposed on the bulk of foreign goods imported, while Ottawa increased the tariff on oils, oilseeds and fats and extended their range. The result was a total decrease of 231,000 metric tons per annum in oils obtained from foreign sources and subject to duty; an increase of 33,000 metric tons in foreign oilseeds not subject to duty, and an increase of 232,000 metric tons of oil from Empire oilseeds and plants. Thus, the general effect of British policy was not a decline in the total volume of her imports of vegetable oils and oilseeds, but a sharp swing over from foreign to Empire sources of supply.¹

Finally, the position of the United States of America has had considerable influence on the oils and fats market in the decade immediately preceding the war of 1939, while the trade policies adopted by that country since 1933, combined with the climatic vagaries of the early thirties, well illustrate the complexity of the market and the fluctuations to which it is liable.

The U.S.A. is a large producer as well as a large consumer of oils and fats. Her indigenous sources of supply come principally from cottonseed, ground-nuts, maize and soya-beans,² while she also produces large quantities of the animal fats, lard and tallow. Nevertheless, the United States was also a great importer of vegetable oils and was one of the countries whose palm-oil consumption particularly grew rapidly in the inter-war years. From 1926 to 1930 her annual imports of palm-oil averaged 90,300 metric tons per annum, from 1931 to 1933 the average had risen to 113,000 metric tons per annum, in 1936 palm-oil imports stood at 153,600 metric tons. Eighty per cent of her palm-oil supplies came from the new plantations in the Dutch East Indies, 11 per cent from the Belgian Congo and 8 per cent from Nigeria. In 1933, government measures were introduced restricting the planting of cotton in an effort to raise the price of lint, and, at the same time, a great effort was made to reduce the consumption of imported oils and fats in favour of the home producer. In March 1934, an excise tax was introduced on all oils and fats coming into the country, a tax which fell on the first processor of these commodities and which meant an increase of 100 per cent in the cost of coconut-oil to the consumer and even more in the cost of palm-oil. United States imports of palm-oil had dropped to 70,500 metric tons by the end of the year.

Messrs. Faure and Company, in their annual review of the oils and fats market, estimate that a crop of 13,000,000 bales of cotton lint is necessary to meet American requirements of cottonseed oil, but the measures taken by the government coincided with the onset of two great droughts; in 1933 the cotton output fell to 9,750,000 bales, and resulted in

¹ *ibid.*, p. 265.

² The growth in the output of the new soya-bean crop has proved phenomenal. In 1941, the North American crop amounted to 2,858,000 metric tons and in 1942, to 5,664,000 metric tons.

a serious deficiency of cotton-oil supplies even when surplus stocks were absorbed. In consequence, the price of cotton-oil rose so steeply that foreign oils could once more compete with it and began to flow in. Meanwhile, owing to the failure of the maize crop, a large number of young hogs had to be killed off for lack of food supplies and with the dearth of tallow caused thereby, palm-oil became an economic material for the soap manufacturer. So serious had the shortage of home produced oils and fats become that tallow and cotton-oil were both imported by the United States in 1935.

Efforts were again made to check this revival of trade in foreign oils and fats. In 1935, a 3 per cent per lb. import duty was imposed on all derivatives of oil subject to the Processing Tax, such as the fatty acids and refined palm-kernel or coconut oils. The U.S.A. was, however, in a very difficult position. The *per caput* consumption of edible oils and fats was steadily growing (it was 51 lb. per head in 1935 as against 46 lb. in 1933), and despite the barriers raised against foreign oils, the shortage of home supplies to meet the internal demand meant that foreign products still came in. A bill was introduced in 1936 to restrict the imports of products previously untouched by the Processing Taxes; this chiefly affected tallow, imports of which had grown rapidly since the introduction of these taxes, until some 160,000 tons were imported annually; the new measure naturally had the effect of turning buyers from tallow back to palm-oil. Increasing use was made of this product in the manufacture of compound lard and processed food fats as well as in the soap industry, which hitherto had been almost its sole outlet.

Hence, on balance, American measures to restrict foreign imports have tended in the long run to raise imports of vegetable oils and to hasten their extended use in the edible fats industries by replacing the scarce animal products.¹ The position was stabilised by the Anglo-American trade agreement of 1938, by which each party agreed not to raise the tariff rate against the other without due warning and consultation.

2. NIGERIAN PRODUCTION OF VEGETABLE OIL AND OILSEEDS

We turn now to look at this market from the viewpoint of Nigeria. Vegetable oils are very important to this dependency, and she is, in turn, an important world supplier of them. The average annual value of the exports of palm-kernels and palm-oil relatively to the total value of Nigeria's domestic exports has been between 36 per cent and 48 per cent in the past sixteen years; on the outbreak of the second world war, she was con-

¹ *U.S.A. Net Annual Imports of Palm-Oil*
Average (in thousands of metric tons)

1926-30	1931	1932	1933	1934	1935	1936
90.3	116.2	97.3	128.2	70.5	134.9	153.6

tributing about half the palm-kernels entering world trade. The important position which palm-oil holds in the native economy as a staple of diet is described by Professor Forde in his chapters on the southern economy of the country. Professor Hancock in his recent book discussed in some detail the growth of Nigeria's palm-oil trade and her methods of production. Care has been taken to avoid, wherever possible, going over the same ground as Professor Hancock, whose book provides a most valuable background to this chapter.¹

Ground-nuts, grown extensively in the northern provinces, have also gained increasing importance among Nigerian exports in the inter-war years, and amount to about 20 per cent of the total value of domestic exports; in the years immediately preceding the outbreak of war in 1939, Nigeria was responsible for roughly one eighth of the quantity of ground-nuts absorbed in the world market.

In spite, however, of the very important rôle which Nigeria plays as one of the chief producers of the free fatty acid (f.f.a.) oils,² it must be realised that in each case she is only one contributor among many, and even, in the case of palm-oil, is exposed to the keen competition of other and more efficient producers both in the Netherlands East Indies and in other parts of the African continent. As one of the many competitive producers of commodities which themselves have close substitutes and fluctuating fortunes in the world markets, her position in this respect is vulnerable.

The world production of vegetable oils and oilseeds (expressed as oil equivalents) since the 1914-18 war has increased to meet the growing demand already outlined. Asiatic exports, which averaged before that war 1,050,000 metric tons per annum, had grown to 1,900,000 metric tons in 1929 and though they decreased by some 300,000 metric tons in the next three years and fell again in 1934-5, in 1933 and 1936 they were near to the 1929 level.

Exports from Africa grew from 431,000 metric tons in the pre-1914 period to 743,000 metric tons in 1924-8, an increase of 72 per cent as compared with the years before 1914. This growth advanced rapidly till 1931, when there was a fall, caused largely by reductions in the quantity of ground-nuts shipped. But an ascending movement again became visible in 1933 and continued to 1936. Ground-nut exports alone in the later

¹ *Op. cit.*

² Palm-oil from the fresh fruit is an almost neutral fat containing 10 per cent glycerine in combination with various fatty acids. When the fruit is picked, and while it is lying heaped awaiting the extraction of the oil, fermentation occurs, and the oil then shows a marked degree of acidity. The percentage of f.f.a. in a sample of oil depends on the degree of fermentation, and the quality of the oil is determined by the f.f.a. content. Oil of a low percentage of f.f.a. is placed in the best or soft oil category, while oil with a high degree of f.f.a. is classified as hard oil. Factors which influence the f.f.a. content are the use of over-ripe or damaged fruits, the storage of the palm-fruits in heaps, and insufficient heating before the fruit is pulped.

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1930's were three times those of the exports before the first world war, while the oil-palm produce exported showed a growth of 60 per cent in 1924-8 as compared with 1909-13.

The following table shows the movements in the exports of the chief oleaginous products of Nigeria. Her shipments of vegetable oils and oil-seeds had increased by about 80 per cent in the period 1924-8 as compared with the pre-1914 figures. This growth continued, with a slight setback in 1931, till in the years 1935-8 exports were $2\frac{1}{2}$ times greater than the 1914 level. Palm-oil exports formed on an average 15 per cent of the total value of domestic exports in 1931-5, and palm-kernel exports 22.7 per cent. Ground-nut exports from this territory, however, have shown the most striking increase, rising from about 7,000 metric tons per annum in the period 1909-13, to 150,000 metric tons in 1924-8, and 309,000 in 1933-6.

TABLE XLI
TOTAL NET EXPORTS OF PALM-OIL, PALM-
KERNELS, GROUND-NUTS, 1909-1939

	AVERAGE (in thousands of metric tons)					
	1909-13	1924-28	1929	1930	1931	1932
Palm-Oil ¹ -	81.9	128.1	132.9	136.7	118.8	116.1
Palm-kernels ²	176.3	249.1	254.1	262.8	257.4	312.4
Ground-nuts ³	7	150	214	212	232	273

	AVERAGE (in thousands of metric tons)						
	1933	1934	1935	1936	1937 ⁴	1938	1939
Palm-oil ¹ -	128.8	113.1	143.1	163.7	148	112	128
Palm-kernels ²	262.5	292.8	316.3	390.8	343	317	305
Ground-nuts ³	297	355	267	317	331	183	150

Nigeria also sends overseas a small quantity of beniseed (sesame) and shea-nut butter. The chief centre of the beniseed crop is in Benue and the adjacent provinces, where it is cultivated by the primitive Tiv. The Agricultural Department, in co-operation with the trading firms, has done much to improve the crop, and to eradicate a black seed of low oil content which was creeping into newer areas of cultivation. The record year of production in Benue province was in 1935 with a crop of 13,000 tons. Since 1936 the Agricultural Department has been attempting to increase the output by more intensive methods of cultivation, and hopes to achieve an increase of 75 per cent by these means.

Bida is the chief market for shea-nuts whose product, shea-nut butter, is purchased for export; it is also the centre of the area of production. Exports of shea-nut butter have amounted to 53,216 tons in recent years.

¹ *Oils and Fats*, Vol. 1, p. 212, Table 68.

² *ibid.*, p. 211, Table 67.

³ *ibid.*, p. 27, Table 6.

⁴ Figures for 1937 to 1939 were taken from *Trade Reports*.

(a) NIGERIAN OIL-PALM PRODUCTION¹

Nigeria holds the leading place in the export both of palm-oil and palm-kernels in West Africa, and is still the chief exporter of palm-kernels throughout the world. But her supremacy as the chief shipper of palm-oil had been captured by the Netherlands East Indies for some three or four years prior to the outbreak of war in 1939, and the growth of scientifically controlled plantations in Sumatra, Malaya, and the Belgian Congo in the inter-war years proved a serious threat to the future of the haphazard peasant product of the country. The threat of this competition has hung over Nigerian development like a dark cloud and has raised in an urgent form the issue of the relative advantages of peasant and plantation production, with all the attendant political problems.²

The first oil-palm plantings were made in Sumatra in 1911, and the export of palm products began in 1919; from Malaya exports did not begin till 1926, but supplies from both countries have been growing rapidly year by year. Total exports of palm-oil from the Far East, which averaged only 26,426 metric tons annually in the period 1924-8, had grown to 202,161 metric tons in 1936, and formed 42.2 per cent of world exports in that year.³ In 1937, when West African exports had dropped by some 20,000 tons as compared with the previous year, the shipments of palm-oil from Java and Sumatra had increased by about 15 per cent as compared with those of 1936, and British Malayan exports had grown by 45 per cent in the same period.⁴

In addition to this competition from overseas, Nigeria is called upon to face the increasing output of the Belgian Congo plantations, an area which is second to Nigeria in the export of palm-oil, and follows Nigeria and Sierra Leone in the export of palm-kernels. The rapid development of these plantations compares with that of the Far East, for, prior to 1912, the Belgian Congo had no oil-palm industry, save a small export of some 2,000 tons of oil, and 5,000 to 6,000 tons of kernels from the Mayumbe district at the mouth of the river. In 1911, Sir William Lever, having been refused concessions in Nigeria, founded the Société des Huileries du Congo Belge to which the government granted control of some 1,875,000 acres of wild palm forest for exploitation, the industry being designed to supply a regular flow of fruit to local mills. The country was opened up by building roads and railways and by the organisation of a very efficient service

¹ I am indebted to the Editor for collecting some of the information in this section for last minute insertion.

² Hancock dealt with the position as it was before 1939. It is proposed, therefore, to give a brief summary here, and to refer the reader to that source for further information, except, of course, with regard to recent developments; *op. cit.* pp. 194-200, 236, 246.

³ 172,396 metric tons from the Netherlands East Indies and 29,765 metric tons from British Malaya.

⁴ F. Faure and Co., *Review of the Oils and Fats Market*, 1937, p. 74.

of river steamers, which transports a large quantity of oil to the coast. Other firms were eager to enter this new field of enterprise; at the outbreak of the war in 1939, 35 oil companies were operating in the Belgian Congo, the Société des Huileries du Congo Belge being, however, still responsible for about half the palm-oil sent out of the country. The yield of palm-fruit per acre in the conceded forest was greatly increased. In 1927, the Belgian Government started an experimental station at Yangambi, near Stanleyville, containing 25,000 selected palm-trees of a native variety and a high-yielding strain. Under favourable conditions in selected palm groves, they estimated that they should obtain an output of one ton of oil per acre, while it has been suggested that in Nigeria it takes nearly 20 acres of wild oil-palm to produce a ton of oil.¹ After 1930, the Société des Huileries du Congo Belge also commenced important developments on plantation lines with selected seed. By 1937 there were 73 steam driven factories working the fruit of 350,000 to 400,000 acres of natural palm groves.

The seed of improved oil-palms from the government experimental station are distributed free of charge to native farmers in areas where, after consultation between native chiefs, the district officer and the agricultural adviser, the cultivation of oil-palms is decided upon. Expert advice is also provided free; but in return the government demands that the programme shall be carried out faithfully. The plantations so established remain the absolute property of the African communities, who are free to dispose of their produce as they like. By 1937, 22,068 acres had been planted by native farmers with improved seed under this scheme.² By these methods the total exports of palm-oil from the Belgian Congo had grown from an annual average of 7,700 metric tons in 1916-23 to 59,959 metric tons in 1936,³ and 100,000 in 1943.⁴

During the past few years the Belgian Congo has made a further advance in two directions. First, with regard to the native product, the large number of factories, small plants for expressing oil and hand-presses, combined with the improvement of the palm groves, have produced further increases of yield, with a concurrent improvement in quality. According to a recent Belgian estimate, 6,300 men with the help of machines can now achieve the same annual production of oil and kernels as 50,000 Africans working by native methods.⁵ But the Congo producers

¹ Mr. Alexander Cowan, formerly a director of the United Africa Company, in an unpublished paper read to the Monday Club in 1938.

² Le Plac, Professor Edmund, 'Native Agricultural Policy and European Agriculture in the Belgian Congo', *Journal of the Royal African Society*, v. 38: 357-369, 1939.

³ *Oils and Fats*, Vol. I, p. 220. The estimate for palm-oil exports 1916-23 are given from figures privately supplied to the author.

⁴ Tobback, Dr. L., 'The Oil Palm in the Congo', *Belgian Review*, Feb., 1944.

⁵ *ibid.*, p. 23.

have also greatly increased the amount of high quality oil from European controlled plantations. The area of the latter reached 125,000 acres in 1943, the largest holder being the Lever interest, and it is believed that very extensive increases are planned. It is anticipated that in five years the Belgian Congo may be approaching a production of 130,000 to 140,000 tons of palm-oil a year with an f.f.a. content of 3 per cent to 4 per cent.

Buying centres for palm-kernels in the interior of the country were also opened by Sir William Lever, and later by other individuals and firms, so that they are now established throughout the Belgian Congo wherever the palm forests are found. The percentage of kernel to oil is much lower than in Nigeria as in their breeding programme producers have concentrated on the soft shell type, and the trade in oil has, therefore, increased much more rapidly;¹ nevertheless the exports of palm-kernels have grown from an annual average of 6.5 thousand metric tons in the years 1910-13, to 92.3 thousand metric tons in 1936.²

In Nigeria, in contrast with the practice in the Belgian Congo, the British Government has steadily refused to grant concessions of land for plantations to European firms. The only exceptions made have been in the case of the Lever interests, who lease altogether some 23,000 to 24,000 acres, a figure including the Cowan Estate, of which roughly 9,000 to 10,000 acres are under rubber. Much of this land has been granted in order to have one or two model or control estates for the cultivation of the oil-palm in West Africa, and for aid in selecting palms for seed purposes to improve African palm plots.³ Otherwise, production remains entirely in the hands of small native farmers, who gather the fruit from the wild palms indigenous to the country, and extract the oil from the fleshy pericarp by primitive hand processes, losing thereby a large proportion of the oil content of the fruit. There are two forms of native extraction; one, which is much less laborious, produces a hard oil,⁴ the other, a semi-soft or soft oil. In the soft oil process the fresh fruit is boiled in water and the resulting mash is then pounded and the nuts separated. The liquid is again heated to separate the oil from the pulp, and the surface is skimmed. After this, the oil obtained is heated further, to remove the moisture and thus to purify it. If ripe, undamaged fruit is used, the f.f.a. content of the oil would be of the same order as that of the plantation product.

In the hard oil process, the fruit is heaped after picking and allowed to soften by fermentation. After a first pounding, boiling water is added to the fruit and the oil is separated from the pulp by the method described

¹ At the present time oil exports represent 65 per cent of the export of all kernels. See *Oils and Fats*, Vol. I, p. 219.

² *ibid.*, p. 211.

³ See *Leverhulme Commission Technical Reports*, paras. 121, 134-5, for some account of these plantations and a claim in view of their great value as experimental farms for more co-operation and support for them from the government.

⁴ See p. 223, footnote 2.

above. "The oil obtained by this process is low-grade and may contain upwards of 30 per cent free fatty acids, the acidity being dependent upon the degree of fermentation."¹ The pericarp is separated from the nuts by treading the fruit in pits, where it is covered with cold water. By the hard oil process some 55 per cent to 60 per cent of the oil content is recovered, by the soft oil process only about 50 per cent, or 8 per cent to 10 per cent of the weight of the fruit. The latter method also requires more labour and more fuel, as the oil is heated twice in the course of production. Because of this and of the higher yield of oil obtained, the hard oil process tends to be more popular, though, as it involves a certain amount of fermentation, which increases the f.f.a. content, the product is still only a low-grade oil. Fermentation also frequently creeps into the soft oil method of extraction because of the African habit of leaving the fruit lying longer than is desirable after picking, though it is not inherent in the system. Fermentation and the resultant free fatty acids which are released lower the value of the oil in the eyes of the European and American purchaser.

An increasing use is being made of the hand-press, by means of which the African can extract an oil with as little as 3 per cent f.f.a. content, provided—and this is no easy proviso—that the fruit is treated while absolutely fresh and is well sterilised by cooking before pressing. By this method about 60 per cent of the oil content of the fruit is recovered as compared with 50 per cent by the native process. More will be said later of efforts made by the government to increase the use of the hand-press.²

The grade of oil is determined by the f.f.a. content and four main grades are distinguished in Nigeria.³

Grade 1 Edible oil which contains up to 10 per cent f.f.a.

2 Soft oil " " 10 per cent to 25 per cent f.f.a.

3 Semi oil " " 25 per cent to 45 per cent f.f.a.
(34 per cent average)

4 Hard oil " " anything above 45 per cent f.f.a.

It is interesting to note, in comparison with the above, that the f.f.a. content of Far Eastern oil has been reduced to 5 per cent or below, and

¹ Bunting, B., Georgi, C. D. V., and Milsum, J. N., *The Oil Palm in Malaya*, Malayan Planting Manual No. 1, (Kuala Lumpur), 1934, p. 132, for a description of West African processes.

² See also *Laoerhulma Commission Technical Reports*, para. 136, for a discussion of the native method of producing palm-oil.

³ Since this chapter was written a new classification has been made with five grades as follows:

Grade 1 1 to 9 per cent f.f.a.

" 2 Over 9 per cent to 18 per cent f.f.a.

" 3 Over 18 per cent to 27 per cent f.f.a.

" 4 Over 27 per cent to 36 per cent f.f.a.

" 5 Over 36 per cent f.f.a.

At the same time the premia for quality have been raised. It is understood that the grades will be revised in an upward direction periodically if circumstances permit [Editor].

that the Government of the Belgian Congo has prohibited the export of oil in excess of $8\frac{1}{2}$ per cent f.f.a.

West African palm-oil entering the world market is sold on an f.f.a. basis. The Seed, Oil, Cake and General Produce Association, Inc., Liverpool, has established a general contract by which the price of West African palm-oil is based on 18 per cent f.f.a. and allows for a reciprocal deduction or premium of 1s. 9d. for each 1 per cent f.f.a. over or under the stipulated 18 per cent. Thus, if on a certain day Nigerian soft oil should be found on arrival to have an f.f.a. content of only 5 per cent, the contract price would be increased by 18 per cent - 5 per cent = 13 units $\times$ 1s. 9d. = 22s. 9d. per ton.

The oil coming from the cultivated palm plantations of the Far East and the Congo forms almost a separate commodity. Whereas Nigerian native oil is dealt with as a single transaction—e.g. 100 tons of such and such a quality—the plantation industry as a whole, whose oil is all of a *standard quality (3 per cent to 5 per cent f.f.a.)*, tries to arrange contracts on a 12-monthly basis at an average price, for delivery in monthly shipments throughout the year. It is, therefore, difficult to make a direct comparison between the price paid for West African native oil and plantation oil. Moreover, the former is intrinsically a technical, the latter an edible product; and the markets for oils of these two categories do not necessarily run parallel. Even in the case quoted above, where two comparable products are involved, the 22s. 9d. per ton received for Nigerian oil of a low f.f.a. content, would not be necessarily the premium which Sumatran oil would command on that day over Nigerian softs. Generally, the premium for Sumatran oil is less than this.

The wild palm-trees ready for harvesting are frequently scattered in the forest, at some distance from the local homesteads, involving much waste of time in gathering the fruit and transferring it by headload to the village for extracting the oil. The Nigerian palm, growing in the bush, does not bear till it has thrust up above the surrounding undergrowth and is some 30 to 50 feet high and 20 to 25 years of age; the trunk is difficult to climb before this age, as the leaf-scars with which it is encrusted do not drop off till then, leaving a smooth trunk up which a man can go without difficulty. The labour and risk involved in ascending trees of this height, and the damage to the fruit cut and dropped to the ground must be taken into account, for the bruising of the fruit at once sets up fermentation, thereby increasing the free fatty acids. On palm plantations, harvesting begins frequently in the fifth or sixth year when the fruit can be hacked off easily by a man standing on the ground.

The inner nuts of the Nigerian palm-fruit are crushed between stones by women and children to extract the kernels; the income from the sale of palm-kernels is traditionally recognised as the woman's perquisite. There have been fears that strong opposition might be met from this quarter if

more scientific methods of extracting the kernels should be inaugurated; in this case, some method of compensation for the women might have to be devised.¹

The trees selected for the Dutch plantations are hybrids, producing fruit with a 30 per cent oil content. The fruit of the Nigerian wild palm varies greatly; its oil content on an average is 22 per cent. Professor Knox, who has made a careful investigation of the West Coast trade, estimates that from 100 tons of Sumatran fruit some 28 tons of oil can be extracted by aid of the machinery in use there. On the other hand, from 100 tons of Nigerian fruit only about 11 tons of oil are extracted by native processes, and only about 14 tons by the use of the hand-press.² This estimate gives some suggestion of the relative disadvantages of Nigerian production.

A large quantity of Nigerian oil is produced many miles from the coast, and, on its journey from the village of extraction to the European shipper at Lagos or Calabar, it passes through the hands of several African middlemen. This provides ample opportunity for the common practice of mixing soft with inferior oils.³

In the creek regions of the famous 'oil rivers' behind Calabar, it is the custom to send the oil to market in casks by raft, and this method of transport depends on the flooding of the river channels. Thus, it not infrequently happens that oil prepared in one season in the native villages has to wait for flooding in the following season and the f.f.a. content of the oil increases all the time through this delay. Oil which would rank as soft on its immediate preparation is, therefore, often reduced to the semi-standard by the time it reaches the ports. In contrast with this, on the plantations of the Far East and the Belgian Congo, the palm-oil from the fresh fruit is effectively clarified and sterilised at the mills which are situated in close proximity to the plantation. The chances of increasing the f.f.a. content after the oil has left the mill are then slight, provided that the process is thoroughly carried out and the moisture content is reduced to a minimum.

¹ A district commissioner from Owerri province made this comment upon this paragraph: 'In many areas the sale of oil is a woman's perquisite also, but this does not stop the use of oil presses' [Editor].

² From an unpublished paper on the oil-palm industry by Professor T. M. Knox of the University of St. Andrews, prepared for the British Association, Section E, 1939, which the writer has been permitted to read by kind permission of the author.

³ It may be mentioned as an indication of the complexities of the whole palm-oil question that there appears to be a difference of opinion between the Agricultural Department and some of the firms trading with West Africa as to whether the mixing of different grades of oil accelerates the spread of free fatty acids. Nor does it appear to be absolutely certain how soon fruit must be boiled and pulped in order to produce an oil of the requisite quality, and experiments are still being made in this direction by the department.

(b) THE INTERNAL TRADE

Unlike the East, where there is no local market, a very large proportion of the palm-oil produced in Nigeria is absorbed in internal trade. It forms an essential item of native diet in a country where there is little or no consumption of animal fats such as milk or butter, and is the basis of most African dishes, being used both as a cooking material and as an ingredient in sauces, soups, etc. The 'chop' oil produced for this purpose is despatched on a considerable scale from the palm belt to other parts of Nigeria.

It is difficult to gauge with any final accuracy how much of the season's output flows into the channels of internal trade; the general estimate is 35 per cent to 50 per cent, made by those with an intimate knowledge of conditions in the palm-growing districts. The approximate average of half a million tons of kernels exported annually from the West African coast represents 5 million tons of fruit, which, at an average content of 20 per cent for the West African palm, would result in a million tons of oil. As only half the available quantity of oil is recovered by native methods, the total available for export is reduced to half a million tons; actually only slightly over 200,000 tons of oil are exported, so that local consumption in West Africa may be in the region of a quarter of a million tons annually.¹ Allowance must be made for the fact that an appreciable quantity of fruit drops off the trees, and is never collected, but the kernels, when the pericarp has rotted away, may still be picked up and exported. Considerable quantities of oil are sent from the forest belt of Nigeria to the non-oil-producing areas of the north. For instance, out of 1,134 tons produced in Onitsha between January and March 1940, over 60 per cent was despatched to the north, and from Ibadan 1,000 to 3,000 tons are sent every quarter to the northern markets.² The marketing officers believe that this internal trade is growing in volume, a situation which would be highly beneficial from the dietetic point of view. But increased internal consumption should not materially affect the export trade for in the wild palm forests there is abundance of fruit to meet the demands of both markets, quite apart from the oil that could be saved by more efficient methods of extraction.

This internal trade, it has been suggested, is the saving factor in the situation. Even as late as 1935, when the threat of Far Eastern production was becoming acute, it was argued that the West African industry could meet the buffet of a falling price level better than the Far East, owing to the more rapid curtailment of supplies which was made possible by switching oil from the overseas to the home market. It has been noted by one observer recently that if the export price falls below £6 per ton, there is

¹ It should be noted that only 60 per cent to 80 per cent of palm-kernels reach the market annually. The rest are wasted or used to a small extent in internal consumption.

² From the quarterly reports of the marketing officers appointed on the outbreak of war to keep a record of the produce appearing in the local markets.

always a perceptible reduction in the amount offered for sale to the European buyers, and a greater quantity is taken to the local markets. Thus, it is suggested that, if West Africa were eventually thrust out of the world oil markets, her industry would not altogether collapse but would find an outlet in a growing volume of internal consumption. But it must be remembered by those who use this argument that Nigeria's exports, on which her internal money income depends, consist of primary products, and that oil and kernels form nearly 50 per cent of these. If the standard of living is to be maintained internally, alternative products for exploitation and development would have to be found should palm-oil exports be cut off. Otherwise the income of the population would tend to be severely reduced and efforts to expand the internal market for oil would be seriously hampered. Both the internal and external trade should be stimulated, but both require oil of a good quality for success.

Palm-kernels, on the other hand, are not utilised to any great extent by the African, and the bulk of the output is exported. Hence, if a fall occurs in the price offered by the European firms, there is no immediate curtailment of the quantities offered for sale, but efforts may even be made to increase their volume so that the money income derived therefrom may be maintained at the same level.

(c) GOVERNMENT POLICY

In face of the threat of the Far Eastern and Belgian Congo advance, and under pressure from the Joint West Africa Committees of the Liverpool, London and Manchester Chambers of Commerce, the Secretary of State for the Colonies appointed a committee in 1923 to consider the best means of securing an improved and increased production from the West African oil-palm.¹ The recommendations of this committee, which viewed the position with alarm, fell into two classes: (1) the introduction of efficient means for expressing the oil from the fruit by building small factories serving a 7-mile radius; (2) the improvement of the palm grove itself by the enforcement of a better agricultural technique. No immediate action resulted on receipt of the report, but in 1926, after his visit to West Africa, Mr. Ormsby-Gore, then Secretary of State for the Colonies, reaffirmed the main recommendations of the committee, though he deprecated any system of development which would entail compulsory measures or interfere with the native system of land tenure.²

Two reports, which were produced meantime, did much to allay the growing alarm and to confirm the government in its desire to avoid radical change, with the attendant political questions involved in any such

¹ *West Africa Palm Oil and Palm Kernels. Report of a Committee appointed by the Secretary of State for the Colonies, September 1923, to consider the best means of securing improved and increased production*, Colonial No. 10, 1925.

² 'The Palm Products Industry', *Tropical Agriculture*, v. 8: 169-170, 1931.

programme of improvement. The Agricultural Department of Nigeria, as the result of experiment, contradicted certain of the committee's recommendations concerning the cultivation of the native groves. It found that, contrary to belief, pruning palm-trees led to a heavy decline in the yield of fruit, while the increase in yield per acre, which resulted from regular clearing of bush and undergrowth, was very small once the trees had reached a certain height, and was certainly not sufficient to repay the extra labour involved.¹ In addition, it was discovered that, if clearing is undertaken below the older forest palms, those trees which have grown up in the tangle of undergrowth are very susceptible to Foames disease of the roots. In 1927, Mr. F. M. Dyke, technical officer of the Niger Company, visited the oil-palm belt of British West Africa, and was very much impressed by the ability of the native farmer, asserting that he exercised a high degree of skill in his methods of cropping and in the care of his palms. At that time he suggested that the African yield of fruit compared favourably with the Sumatran, and that the crux of the problem lay not in improving the grove, but in devising better methods of extracting the oil, notably by the introduction of a small portable mill, already designed by the Niger Company, and serving a 2-mile radius. If co-operation could be established between the African farmer as cultivator and collector of the fruit, and the European firms as expressors of oil, he thought then that West Africa had little to fear from the competition of the East.² The rapid advance of the Sumatran and Malayan plantations both in yield per acre and in output of oil was not then foreseen. At the present time, the yield of 140 trees in Nigerian groves is considerably less than a ton of oil, while the Sumatran plantations produce 2½ tons from an equal number of trees. The whole position has changed with the growth of plantation production, and it is probable that Mr. Dyke's views would be considerably modified if he were writing to-day.

The British Government, faced with these reports, decided on a cautious, long-term policy of gradual education and improvement. A small mill for expressing oil was built in the eastern Gold Coast in 1930-31; two mills had been established previously by the Lever interests, one in eastern Nigeria shortly after the end of the first world war, and one in the Gold Coast in the pre-1914 era. None of these mills, whether privately or publicly owned, was able to run at a profit, as no regular supply of fresh fruit was forthcoming from the African farmers to keep them working to full capacity. A subsidy scheme for the erection of further central mills for oil-expressing by private enterprise was then formulated by the government. The subsidy was fixed on a production basis, on the principle that any loss sustained by the factory owner through inadequate supplies of fruit

¹ Faulkner, O. T., 'Measures for increasing Production of Palm Fruit in Nigeria', *Fifth Annual Bulletin of the Agricultural Department, Nigeria*, 1926, pp. 3-16.

² Dyke, F. M., *Report on the Oil-Palm Industry in British West Africa*, 1927.

should be made good by the government. Owners were to be allowed to treat fruit from leased plantations and to have the monopoly of purchase from the Africans within a 10-mile radius. The scheme was to be under the general supervision of the Department of Agriculture whose approval was necessary before the government would grant its promised assistance. The response to this offer was negligible as the subsidy was not thought sufficient in the initial period before supplies of fruit were assured.¹ One large mill was subsidised in Nigeria under this scheme but the fruit brought in for sale was very unreliable in quality, and if the price offered dropped even slightly in sympathy with a fall in oil prices, supplies fell off at once.

The Agricultural Department of Nigeria was, however, uneasy about the condition of Nigerian oil, as it watched the mounting exports of the Far Eastern and the Congo plantations. Produce Export Regulations were drawn up in 1928 to control and standardise the purity of palm-oil, palm-kernels and cocoa exported, but they took no account of the f.f.a. content of the oil. A system of inspection was introduced to enforce these regulations, to eliminate adulterated oil and kernels mixed with shell, and to ensure a minimum standard of cleanliness. The Niger Company made arrangements of its own at the chief ports for grading, cleaning and bulking the oil brought in, and for shipping it in tanks instead of by the old costly method of casks. This system has now been adopted by all shippers of palm-oil from Nigeria.

The department then decided to follow out the second of the recommendations of the committee of 1923, and to initiate experiments in improving the cultivation of the African oil-palm. The African farmers were encouraged to better the existing wild palm groves by cutting out old trees and replacing them by selected strains, by planting up bare patches, and by keeping the ground cleared round the young saplings. An effort was also made to develop entirely new plantations on a small scale, using selected seed, and giving similar care to the trees in the early years of growth. The latter course has met with more success than the replacement and improvement of the old, wild groves, as the farmer is loath to abandon or cut down the older trees. Professor Hancock has summarised in detail the findings of an unpublished report written by Mr. A. F. B. Bridges, a district officer, who visited the palm-producing areas of Nigeria in 1938 to make a survey of the whole situation, so that only a brief recapitulation is given here in the next few paragraphs.

The Agricultural Department had been carrying out long term experiments for some years in breeding an improved oil-palm and by 1927 was able to distribute a selection of seedlings of the best types from its station at Calabar to the native growers. The supplies of this improved material

¹ *Proposed Scheme for Financial Assistance on the part of the Nigerian Government to Palm Oil Factories*, (Lagos), 1928.

were, however, very small and the United Africa Company (which succeeded the Niger Company and which will hereafter be cited as the U.A.C.) gave valuable assistance by providing selected seed free of charge from its plantation at N'dian in the Cameroons.¹

To further the policy of planting a Cultivated Oil-Palm Ordinance was enacted (No. 17 of 1935) and the necessary Regulations were made thereunder (No. 24 of 1935). If a grower registered his plot with the government and the oil produced by him was under 5 per cent f.f.a., he was then to receive a full rebate of the export duty; if his oil was between 5 per cent and 8 per cent, he would receive nine-tenths of the rebate; But he was only allowed to include the oil produced from the registered palms, and if he were unable personally to plant 15 acres, he had to become a member of a palm-oil co-operative society. This scheme, however, proved abortive; though there were a number of planters and societies with sufficient acreage, they were unable to produce oil of the requisite standard as the difficulties encountered proved too onerous, e.g. harvesting fruit of a uniform quality to fill a 400-lb. container, avoiding bruising, and preventing increase of the free fatty acids while collecting sufficient oil to sell to the middleman. The rebate proved too low to act as a sufficient incentive to overcome these problems.

The movement for planting new plots, however, did progress slowly despite the many difficulties encountered. In the densely populated areas of the Orlu district, south Okigwi and north-east Owerri, the pressure on land means that the growth of food crops is of the first importance, and there is little room for palm planting or orderly spacing of the trees. In the crowded areas of the eastern provinces, Mr. Bridges states that out of the 1,438 plots investigated, 826 or 57 per cent were under half an acre in size, and the individual holdings were so small and scattered that any new palms planted could be in ones or twos only. In Onitsha, north Bende, and a great part of Okigwi, poverty of soil and erosion retard further advance.

In the western provinces Mr. Bridges found that there was a general apathy towards planting where palms were plentiful, and that a large number of the wild trees in Warri, Ondo, Oyo and Abeokutu provinces were neglected and left unharvested when produce prices were low. The competition of the other cash crops, cocoa and rubber, had in some areas driven palm-oil from the external market, and it was produced for home consumption and internal trade only. Where there was a shortage of wild palms, interest was keener, and if a man of initiative could be found in any locality, there was a tendency for planting to go forward. In some villages in the Benin division, there has been an effort to concentrate individually owned plots with marked success.

¹ At the end of 1935 the Agricultural Department had only 75 acres of selected palms under its control, most of which were still young.

In both the eastern and western provinces there is, however, a great weight of inertia and apathy to be overcome, coupled with active suspicion of the government and its intentions. The two main fears seem to be either that the government will eventually impose a tax on the planted trees, as it has done in some of the Yoruba cocoa districts, or will in time eventually acquire ownership of the palms. There is an intense conservatism in some communities, which leads them to regard any improvements as an irreligious interference with tradition. In some Yoruba divisions, where there is communal ownership of land and palms, the fear is that the planter will acquire a permanent right to the land. But the chief handicap throughout is ignorance of government policy and intentions and resultant suspicions; and no swift or extensive advance can be looked for in this direction.

Nevertheless, despite the physical and psychological difficulties confronting the would-be planter, this movement has gone steadily forward. From a small beginning made in 1928 when six owners planted 21 acres, to the year 1935, the area planted nearly doubled every year. After that there was a slight falling off owing to the low price prevailing for palm-oil, but it is interesting to note that the acreage planted in 1938 was only a little below that of the preceding year, although the wholesale market price of oil at Lagos had fallen considerably, with all the discouragement that this brings to the grower. In 1938 (in a palm-oil producing population, it must be remembered, of several millions), there were 4,617 native plots comprising 8,679 acres in existence under the oil-palm planting and grove replacement scheme in Nigeria. In that year, for the first time, the Agricultural Department's supply of seedlings was adequate to meet the demand and to leave a surplus for the next season.¹

An oil-palm research station, embracing over 1,000 acres of land, was established in Benin by the Nigerian Government in 1938-9 with a subsidiary station at Onitsha. The work included in this scheme of oil-palm improvement covers trials in oil-palm progeny-selection, manurial and cultural practices and methods of extracting the oil. This work has been carried on throughout the years of war, and is an undertaking of great importance for the future of Nigerian oil-palm cultivation, but it is, nevertheless, on a very small scale in comparison with what has been achieved in the Belgian Congo and the Netherlands Indies. It is impossible not to endorse the reproach made by the Leverhulme Commission that there has been prolonged neglect to initiate adequate oil-palm research in West Africa.² It is understood, however, that it is now the intention of the Nigerian Government to extend the scope of the work of the oil-palm research station as soon as circumstances permit, and that an undertaking

¹ *Annual Report on the Agricultural Department, 1938, Nigeria*, p. 20.

² *op. cit.*, Chapter VIII.

has been given in principle that assistance to this end will be supplied from the research funds provided under the Colonial Development and Welfare Act of 1940. At present, the station is very much understaffed.

Secondly, as regards the method of oil extraction, the Agricultural Department attempted to solve the problem by introducing a small hand-press. After various trials the Duchscher press, produced by a Luxemburg firm, was finally chosen in 1932 as the most satisfactory. For the first few years the initial cost of the machine (£18) prevented its ready adoption, but the native administrations then arranged for a system of hire purchase on easy terms, and the press became more popular, particularly in the semi-soft oil areas. With the hand-press soft oil can be readily produced, therefore making available to the producer the premium for soft oil over semis, in addition to the somewhat higher yield obtained through the process.¹ The great disadvantage of the hand-press is that the pulping of the fruit by this method involves a very laborious process, calling for great physical exertion. It is possible to extract up to 65 per cent of the oil content of the fruit, as compared with 50 per cent by native methods and to produce an oil of 1½ per cent or even less f.f.a., but to do this the fruit must be undamaged and pulped within six hours of picking. Hence, the efficient working of the hand-press at full capacity is retarded for the same reason that the central mills have experienced, namely the difficulty of obtaining a regular supply of newly harvested fruit.

At 31st December, 1932, after the Duchscher press was first introduced, 58 native purchases were recorded; at 31st December, 1938, this number had grown to 834, though on account of the low oil prices, there was a dearth of buyers in that year as compared with 1937 and many of the machines sold lay idle for comparatively long periods.² In spite of the higher proportion of oil which can be produced by means of the press, the owner can seldom make a profit from the pressing fee charged for extracting the oil of his neighbours. 'The market price of fruit approximates closely to the value of the oil and kernels which it contains (the labour of extraction by native methods apparently being valued at nil) and the extra oil extracted by the press at low prices barely covers working costs.'³ The rate of pressing has been forced down to 2d. per tin of oil extracted, which is not sufficient to ensure the economic working of the press. The department was about to test a small power mill evolved and presented to them by the U.A.C. when the outbreak of war in 1939 restricted further experiment for a time.

¹ In 1931 there were 31 presses in private hands and 14 owned by the native administrations. See *Annual Report of the Agricultural Department, 1931*, Nigeria.

² *ibid.*, 1938, p. 27. The great increase in sales of hand-presses in 1937 is shown by the following figures: Number of presses bought by native owners at 31st December, 1936: 390. Number bought at 31st December, 1937: 734.

³ *ibid.*, p. 27.

(d) THE FUTURE OF WEST AFRICAN PRODUCTION

None of these measures is sufficient to safeguard the future of the Nigerian oil-palm industry. Despite the ability of Europe to absorb the rapidly increased supplies of oil pouring into the market in the inter-war years, there is no doubt that the low price levels prevailing almost continuously for palm-oil over the past decade have been due at least in part to the influx of the plantation produce of the Far East and to the growing competition of other vegetable oils and of whale-oil. When the more normal conditions of peace are resumed, after a possible immediate post-war boom in oils and fats, it is difficult to see how price recovery can be achieved without two new conditions. The first would be some international agreement between the trading interests to regulate oil exports by the institution of a marketing board for these products, on which producers, consumers and governments would be represented: the second condition would be the tapping of new markets, such as the not unlikely potential demand of India and China for palm-oil and palm-kernel oil. The latter implies the raising of the standard of living in other parts of the Empire and other countries which at present have a very low level of subsistence, simultaneously with the attempt to improve West African conditions. It is well to remember that the prosperity of a country such as Nigeria is dependent in part on rising standards in other backward areas as well as within her own borders. In a market where competition is likely to grow keener, efficiency of production achieved on an entirely new scale is Nigeria's only chance of maintaining her place. Hopes for the ultimate success of the West African palm-oil producer following the traditional methods of cultivation and extraction, which are sometimes based on the analogy of the native rubber or cocoa industries, overlook the essential difference in the nature of the processes involved. The collection of wild rubber and the growth and preparation of cocoa both demand relatively low levels of skill and little capital equipment; the African farmer can quickly learn methods which will ensure a product of the requisite standard. Even so, carelessness and inertia, as has been found in the cocoa areas, may prove serious handicaps, and unnecessary variations in the quality of the product offered for sale may occur. But efficient palm-oil production is on an entirely different footing. It is extremely difficult—some would say impossible—for the African grower to provide by himself the necessary equipment for extracting oil of a uniform and superior quality, or to organise the steady supply of fresh fruit which alone enables the hand-press, much more the oil mill, to function economically.

The problem before us is to find a method by which African skill and capacity for work can be combined with European capital in saving the oil-palm industry of Nigeria. There is no sign as yet that the world market has reached, or is nearing, a permanent saturation point; the high

vitamin content of palm and palm-kernel oil and their peculiar suitability for use in processed food fats, combined with the low cost of production, as compared, for instance, with whale-oil, would seem to ensure these products a permanent place in the European and American markets for many years to come.

The development of scientific planting and cultivation, combined with economical and efficient methods of extraction, can take place along one of two lines: (1) by the growth of individual tenure and control of land which will tend to lead to monopoly of production by the most efficient African in the locality; (2) by an attempt at co-operative production on a scale which has not yet been tried.

The following suggestions are put forward for further exploration. Similar proposals have been advanced in one form or another by many persons, including both Africans and Europeans, in the last few decades, but they summarise different avenues of advance which might be considered or followed simultaneously as experiments.

First, there is the view that further efforts should be made to develop palm plantations as rapidly as possible, both those individually owned and run, and also those which might serve as experiments in co-operative enterprise (*a*) for cultivating and tending the palms and (*b*) for extracting the oil.

The necessity for concentrating palm plots has been urged by Mr. Bridges, who would limit planting to areas where such concentration is possible. Again, his suggestions for a widespread scheme of education and propaganda with the assistance of demonstration plots, and for the supervision of the plantations by agricultural assistants of the native administrations should be considered as part of any scheme of advance.¹ Such concentration of individual plots might well pave the way to the co-operative working of the plantation as a whole, and the harvesting of the fruit. Co-operation need not necessarily mean rigid adherence to western forms of co-operative production societies; but it might mean the communal working and management of the plots with the aid of expert advice, by those actually resident in the locality and dependent on the production of palm-oil for their cash income. The native administration in which the plantation is situated should be urged to provide machinery and buildings for the co-operative extraction of oil at small central mills, the cost of the necessary plant being financed by a government credit. Such a proposal was made to Mr. Ormsby-Gore in 1926 by the southern Nigerian leaders whom he met in Lagos, as an alternative to a system of estates leased to

¹ As part of a long-term post-war policy he advocates (1) the retention of the present premium on the soft oils; (2) the regular posting up of prices to be paid for produce by the trading firms—a course which would do much to dispel the present suspicion of the African that in some way the trader is exploiting him; (3) the extension of co-operative banking and of loans to co-operative palm-oil societies; and (4) the sale of edible oils through co-operative selling societies.

Europeans. These Africans thought that the native farmers would themselves be willing to make a small contribution towards the expenses of an agricultural expert during the initial period of planting and cultivation. It would be necessary at first to have European managers in charge of the mill, working as the servants of the native administration, and training African managers to succeed them in due course.

On the basis of the present export of 160,000 tons of palm-oil from Nigeria annually, it is possible to estimate the number of such mills required to serve the palm-oil belt. The oil thus exported is nearly all produced by inefficient methods of extraction, so that from the same quantity of fruit it is probable that 275,000 tons of oil could be obtained with the aid of central pressing mills. A pioneer mill, designed by the U.A.C., has proved capable of extracting 2,500 tons of oil in a year as noted below; hence on that basis 110 mills could work the fruit from which the present exported quantity of oil is derived. The capital cost of establishing such a mill would be in the neighbourhood of £1,500 or a total sum of between £150,000 and £200,000 would be required to establish the 110 mills. It is not, of course, advocated that 110 mills should be erected immediately; such a development would be a long-term programme, to be realised gradually, with the expenditure spread over a number of years. But a start could be made immediately with one such mill erected to work for a well-organised co-operative society which would serve as a model for further advance. The pioneer mill already designed and offered to the Nigerian Government by the U.A.C. at the beginning of the second world war might be used as the model unit.¹ This mill, according to an account given to the writer, has the capacity to work half a ton of fruit per hour, which, based in this estimate on a 10-hour working day, and 25 working days per month, gives an output of 125 tons of oil per month, or 1,500 tons per year. It can reach an efficiency of 85 per cent in oil extraction, and, in the 11 months that it has been used on the U.A.C.'s plantation, has produced 2,520 tons of oil by working double shifts part of the time at an average efficiency of about 86 per cent, giving oil with an f.f.a. content of less than 5 per cent.²

Alternatively, the planters might be left to function as individual farmers and collectors of palm produce, but should have as their focussing point a central mill, leased or given to the native administration to be developed for the co-operative production of oil. Such a mill should remain for the time under European management, and an educational campaign would be necessary in the area reserved for serving the mill, to teach the farmers that the price obtained for their oil depends on their

¹ The Agricultural Department were unable to find an African community which would accept it. It was finally handed back to the U.A.C. who put it into operation on their own plantation where it has proved its efficiency.

² Information supplied privately to the writer in 1943.

diligence in cutting the fruit at the optimum degree of ripeness and delivering it speedily while taking due care to avoid damaging it by rough handling. Though such a scheme would doubtless pass through a difficult period of growing pains, it is hard to believe that the African farmer does not possess sufficient intelligence to grasp its essentials if the case is adequately presented.

It will be seen that one of these two proposals combines co-operative cultivation, oil-production and sale; while in the other, individual cultivation is combined with co-operative pressing and sale. Both would rely for success upon bringing home to the grower that his individual returns are dependent on the successful functioning of the whole organisation. The producer would be paid an advance against the value of his fruit when it is brought to the mill, and would receive in addition, periodically, further amounts to make up the advance to the actual average proceeds obtained for oils and kernels in the export, or perhaps in some cases, in the home market, after the deduction of milling and other costs.

There is the possibility of a yet fuller joint enterprise, but it is one much more difficult of achievement. The fruit of a clearly demarcated area might be reserved to a central oil mill, the farmers being under obligation to bring the fruit regularly to that centre. The mill, erected either by private foreign capital or by government, would have a larger staff of Europeans than in the other two cases, but would neither purchase nor lease land other than the actual mill site. The farmers in the area would be grouped into a co-operative association, and the European staff at the mill would give their energies not only to expressing the oil, but to the joint management of the communal plantations with the local farmers. Such a partnership would include the care and control of roads, transport, clearing bush, thinning trees, the organisation of labour and the delivery of the fruit, and would entail a sharing of profits between the parties on a pre-arranged basis. Though it might be difficult to arrive at an accurate profit figure, owing to the difficulty of estimating the cost of production of the fruit, it is conceivable that a producer could receive a nominal price based on the time and labour expended in producing a ton of fruit, and any proceeds in excess of the fruit price so arrived at, less milling costs, could then be considered as net profit for division among the partners.

Against these suggestions new factors which have recently appeared in the eastern provinces of Nigeria must be taken into consideration. Over 3,000 acres of palm groves have been planted under the supervision of the Department of Agriculture, but not one has proved a complete success. A serious falling off in yield occurs after the ninth or twelfth year, while even the peak years have shown yields much below those of the Far Eastern plantations. The cultivated palm tends to exhaust the fertility of the soil more rapidly than the wild palm growing under natural conditions, for in the bush or the dense palm grove the non-bearing palms and other trees

provide considerable plant nutrients, which they draw from the subsoil and from which the palms in bearing benefit. This supply is lacking in the carefully spaced palm groves of 60 trees to the acre. In the closed forest conditions of its wild state, the palm remains healthy but gives a yield which is considerably less than that of a similar area of planted palms at their maximum bearing. The reason suggested for the decline in yield after a certain age is that the acid sands of southern Nigeria are of an inherently low fertility and will not support economic yields from plantation palms without some system of manuring. This is not as yet a practicable proposition for African cultivators, and, even if it were, the costs involved might seriously handicap palm-oil production in West Africa.

Yet it is doubtful if the African producer, utilising the fruit of the wild palm, will ever succeed in obtaining an oil of a low f.f.a. content on any large scale, or will be able to maintain that standard over a long period by his present crude methods, even with the assistance of the hand-press.¹ The absorption of a low-grade oil with an f.f.a. content above 9 per cent in soap making and metallurgical processes holds no final solution to the problem of Nigeria's overseas market, for the demand in these industries is more and more for an oil of low f.f.a. content if possible, and there are many competitors from other sources of supply in this field. In a few years' time, when the world's accumulated demand for vegetable oil has been satisfied, when the Far Eastern plantations come back into production, and those of the Congo rise to their promised scale of supply, the peasant producers of south-east Nigeria seem destined to meet the full force of the competition which has been a bogey for several decades.

In short, the whole question of Nigeria's position in the oils and fats market is uncertain, particularly as regards her palm products, which form such a large proportion of her exports. At the present time Nigerian farmers are not being encouraged to start oil-palm plantations until methods of combating the resultant soil deterioration have been explored. But the mechanical improvements operative, for instance, in the Belgian Congo, can only be utilised where there is an assured and regular supply of fresh fruit; while it is only by the process of milling that 80 per cent to 90 per cent of the oil content can be recovered, and it is difficult to maintain the quality of the oil at a uniform level without mechanical aids in expressing it. The small central mill is only an economic proposition when run in combination with some system of cultivated palms and controlled production to ensure regular supplies of fruit at the optimum degree of ripeness. The selection of palms yielding a high proportion of oil to fruit,

¹ Information supplied to the editor by one of the buying firms includes an estimate of 65,000 tons of Grade 1 oil produced by native farmers in 1944. The opinion was expressed that if the final figures do not show this proportion it is probably because a great deal of Grades 1 and 2 were mixed together before export.

the care of the young trees and the systematic harvesting and delivery of the fruit at regular intervals are essential factors in improving and maintaining the standard of West African palm produce, enabling these territories to compete in the world market. Whatever the present uncertainties of the whole palm-oil question, the plea is here made for experimentation on the lines suggested, and for a bold use of men, money and materials in further research and effort to improve Nigerian methods, despite the political and technical difficulties that may be involved, and the barriers of opposition and prejudice that are likely to be encountered among the African producers.

(e) NIGERIAN GROUND-NUT PRODUCTION

The ground-nut area of Nigeria lies in the northern provinces, particularly in Kano and Katsina. The development of the crop for export dates from the opening of the railway from Lagos to Kano in 1912, and as branch lines have been developed in further districts the export of the crop has increased rapidly. Before the coming of the railway, the nuts were cultivated by many farmers for local consumption, and in 1924 it was estimated that 37,000 tons were still consumed locally in a normal year.¹ The crop flourishes on the light quick-draining sandy soils of Kano province, or on the heavier red earth of Zaria, where the rainfall averages 25-30 inches. It is an annual crop, alternating with cereals, and is grown on part of the small farms of about 5 acres, hand cultivated by the African occupier and his family, described by Professor Forde in his chapter on the economy of the northern provinces. The nuts are planted on ridges about 2½ feet apart and 9 to 12 inches high, and guinea-corn or millet is frequently sown through the crop.

The planting season varies from early April to June and harvesting takes place from August to November: the nuts receive little attention except for an occasional hoeing. At harvest time the plants are pulled by hand and then the ground is lightly hoed to recover any nuts which may have been left in the earth. Sometimes the whole plant is collected and piled in heaps to dry in the sun, but usually the nuts are picked off by hand and dried separately. In the first instance the haulms are placed on a patch of hard-beaten earth for threshing and the nuts are decorticated in the process and beaten out on the ground. It is a quick and inexpensive method, but the kernels are mixed with broken shell, earth and sand, which are not all separated by winnowing in the breeze. Farmers are now beginning to beat the haulms in a mortar, which reduces the impurities mixed with the kernels. In the second and more general case, where the nuts are detached by hand, they are beaten with a pestle in a mortar and the kernels are winnowed by tipping them from one calabash to another,

¹ Middleton, H. H., *Report on the Ground-nut Trade in Kano Province, Nigerian Sessional Paper No. 41 of 1924.*

when the light shells are blown away. This process is performed by women, two of whom usually share a mortar and produce a ton of decorticated nuts in the course of 3 or 4 days' steady work at a fee of 8s. to 10s. between them.¹ It is, therefore, a slow and expensive method compared with the other two, though the haulms, which are much less damaged, can also be sold for fodder.

Two types of ground-nut are grown in Nigeria: a creeping, bushy species spreading over the ridges, and an upright plant, used particularly on the heavier soils of Zaria province, whose main stem may be nearly a foot high with the nuts growing in a cluster at the base, which greatly facilitates harvesting. The average yield per acre shows a great variation; one recent estimate of the range is between 200 and 800 lb. of decorticated nuts, with an average of 600 lb. on light and 400 lb. on heavy soils.² It has been suggested that by systematic and heavy manuring this could be increased to an average of 900 lb. per acre.³ Mr. Turner, writing on this subject in 1940, stated that from 65 per cent to 75 per cent of kernels are obtained from threshing, and the oil content of the kernel is fairly constant at about 50 per cent. Costs of production and the return to the farmer from this important cash crop have been estimated by Professor Forde.⁴

It would be very interesting to trace the effect of the export price on the production of ground-nuts. Unfortunately, this is not easy to determine. There is little or no storage of nuts from year to year against a price rise, though they may be held back early in the buying season, which extends from mid-October to the end of March, if the price is low, in the hope of a better offer later. The local market price is much steadier than that offered by the export firms and if the latter remains at a low level throughout the season, more nuts will find their way into the native market. Should the season end with a rising price level, the tendency to increase the area of production will be visible in the following season; on the other hand, in many areas on the fringes of the ground-nut country, cotton is a competing export crop, and if the price of ground-nuts is depressed throughout the months of sale in relation to that of cotton lint, there will be an increase of the acreage under cotton at the expense of ground-nuts in the next year.

¹ *ibid.*, p. 19.

² Turner, R., 'Some Economic Aspects of the Ground-nut Industry of Northern Nigeria', *Empire Journal of Experimental Agriculture*, v. 8: 39-50, 1940.

³ Middleton, *op. cit.*

⁴ See pp. 137-144. Some oil is extracted for domestic purposes by roasting the nuts, rubbing them between stones and pounding them in a mortar, and then mixing the crushed kernels with boiling water into a thick paste from which the oil is squeezed. The residue of paste, mixed with salt and baked, is known as 'kulli-kulli' and is a popular item of food though regarded as somewhat of a luxury. The whole process of oil expressing and making 'kulli-kulli' is carried out exclusively by women. If a grower desires oil, he will take his nuts to a professional extractor and pay her for her work by giving her a proportion of the oil produced.

In those areas where ground-nuts form the only cash crop, a certain quantity will be grown and sold to the export firms, whatever the price, so that the farmer can meet his immediate liabilities, such as tax-payments, for which he must have command of ready cash.

The structure of the trade for export, as it is organised within the country, is very similar to that of cocoa in the southern provinces. The eight European firms who were to be found in the ground-nut market at the outbreak of war, and a number of individual Syrian traders and firms whose purchases may total several thousand tons a season, buy wholesale from native middlemen or through native agents. The headquarters of these trading concerns are in Kano, on which the ground-nut trade of Nigeria is centred, more than half the nuts for export being railed to the coast from there. The firms maintain a series of stores or canteens throughout the provinces, selling imported European goods to the African villagers, and acting as collecting depots or buying centres for African produce purchased for export. These canteens are usually in the charge of an African clerk, with a European district manager to keep an eye on affairs and exercise a general oversight of all the stores in his locality. During the buying season temporary buying stations are also opened in the outlying native markets under an African agent. These clerks work on money advances from the firms, and each employs a number of assistants on similar advances to travel from farm to farm, buying up the crops and granting loans to the farmer months before the nuts are ready for harvest, on the understanding that his produce will be sold exclusively to the creditor.

In addition to these salaried employees of the European and American firms a number of independent middlemen are found, many of whom are big traders and men of substance—Hausa, Yoruba, Arab or Syrian—whose contracts may run from 300 to 1,000 tons at a time. These big traders also employ a number of subordinates to whom they advance money to purchase nuts at the important market centres, buying either direct from the farmer or from the petty trader. The latter acts as go-between from the producer to the large middlemen; he buys in small quantities from the farmer, pays to have the nuts decorticated, and takes them on donkeys to the nearest market for sale to the independent African buyer or his agent, or to the clerk of the European firm. The price paid to the producer is based on the price offered in Kano, less the costs of transport to the nearest buying station and thence to the railhead; if the farmer sells to a middleman, his commission, usually 1s. per ton, is also deducted. A donkey, according to Mr. Turner,¹ can carry 2 sacks with a load of 120 lb.—150 lb. each; the nuts collected from scattered farms are thus brought in to the store or market, situated in the vicinity of a road, and are taken from there to the nearest railway station by ox, or lorry. The average rate is given by Mr. Turner

¹ *op. cit.*, pp. 39 ff., for this and the three following paragraphs.

as 3d.—5d. per ton-mile for oxen and camels; oxen can bear a maximum load of some 180 lb., fully grown camels one of 320–400 lb. Motor transport, which is government owned in some areas, is now 4d. per ton-mile for loads booked through to the port of shipment, but there are a number of lorries privately owned by Africans and Syrians which have cut this rate to 2d. per ton-mile.¹ The bulk of the crop is railed to Lagos for shipment, but a certain amount goes by river in steamboat or canoe. The Nigerian railway in 1936 instituted a flat rate of £4 per ton for ground-nuts despatched to Lagos from any station, and £3 per ton to Baro.

The Agricultural Department is experimenting with improved strains giving a higher yield of nuts, and better seed of this type has already been distributed to farmers. The quality of ground-nuts destined for export has also improved since 1936 when the Produce Export Regulations, enforced in the case of palm-products and cocoa in the south, were extended to the ground-nut market of the north. Kernels showing an admixture of more than 1 ½ per cent of impurities are now rejected.

¹ Cf. Volume II, Chapter V, for relative prices in Kano and Lagos and return to producers.

Chapter VII

COCOA

1. COCOA IN WORLD TRADE

Cocoa is a tropical product limited by its requirements of soil and climate to certain clearly defined areas of the earth's surface, some of the most important factors being heat, sunshine, and adequate rainfall combined with sufficient shade and protection from high winds. It has become an increasingly important article in world commerce during the present century, for world cocoa consumption has increased sevenfold in the past forty years and in 1936 reached its peak point of over 724,107 tons. During this period the United States became the leading world market: Europe took about half the total exports, with the United Kingdom, Germany and the Netherlands as the chief purchasers, drawing their supplies largely from West Africa.

In the period 1896-1900, the annual world production of cocoa was in the neighbourhood of 81,250 tons. During the next ten years this output was nearly doubled: in the following decade it more than trebled, the growth continuing to the record year 1936-37.¹ The development of cocoa farming in West Africa was largely responsible for this great increase in so short a period. In 1899-1900, over 80 per cent of the world's cocoa supplies were grown in the South American territories and the West Indies and less than 1 per cent came from British and French West Africa. By 1936, the centre of production had shifted so completely that West Africa was producing 67.7 per cent of the world's supply, the Gold Coast and Nigeria alone accounting for 50.5 per cent of total world exports.

World exports of cocoa have continued to expand steadily during the last decade; in 1938, the last year for which comparable figures are available, the world trade in cocoa was more than a third larger than the average annual volume of trade during the period 1926-30, Africa shipping some 48 per cent more cocoa in 1938 than in the earlier period. Exports were higher by 100,000 tons or nearly 20 per cent in 1937-8 than in 1932-3. This expanded production has taken place almost entirely in the new producing areas in West Africa, the Gold Coast accounting for about half the increase over the period. Gold Coast exports in 1936-7 represented 42 per cent of the total world exports.

¹ *Foreign Agriculture, Review of Foreign Farm Policy, Production and Trade*, U.S. Department of Agriculture, Washington, D.C., Feb. 1941, p. 35.

TABLE XLII

WORLD COCOA PRODUCTION IN SELECTED CROP YEARS;
PERCENTAGE DISTRIBUTION

Region	Share in World Supply of Raw Cocoa		
	1899-1900 per cent	1925-1926 per cent	1936-1937 per cent
Ecuador - - - - -	18.3	4.5	2.8
Brazil - - - - -	16.5	11.6	16.7
Venezuela - - - - -	11.6	3.1	2.2
Other - - - - -	3.0	.8	1.7
Total South America -	49.4	20.0	23.4
Trinidad and Tobago - -	14.1	4.0	1.6
Dominican Republic - -	5.8	4.1	2.8
Grenada - - - - -	4.8	.9	.4
Jamaica - - - - -	1.2	.6	.3
Other (including Mexico) -	6.0	2.9	2.6
Total Caribbean area -	31.9	12.5	7.7
Total Western Hemisphere -	81.3	32.5	31.1
Gold Coast } - - - - -	.7	48.2	37.5
Nigeria } - - - - -		8.2	13.0
French West and Equatorial Africa -	—	3.6	11.0
Fernando Po - - - - -	.9	1.4	1.4
São Tomé and Príncipe - -	13.6	2.6	1.2
Other - - - - -	.4	1.9	3.6
Total Africa - - - - -	15.6	65.9	67.7
Total Asia - - - - -	3.1	1.1	.9
Total Oceania - - - - -	—	.5	.3
Total Eastern Hemisphere -	18.7	67.5	68.9
World Total - - - - -	100	100	100

Based on *International Year Book of Agricultural Statistics* and official sources. As quoted in *Foreign Agriculture*, February 1941, p. 36.

The United States of America is by far the largest single market for raw cocoa, taking the bulk of the South American crop, and figuring also as the largest single purchaser of cocoa from the Gold Coast and Nigeria, though the bulk of West African cocoa is shipped to Western Europe, whence a large proportion is re-exported to America. In 1936, consumption in the four major cocoa markets—U.S.A., United Kingdom, Germany and France—was 479,520 tons. In that year the United States was responsible for nearly 45 per cent of the total world consumption.

The world price of cocoa since the 1914-18 war has fluctuated within very wide limits. Between 1921 and 1925 the average price of Fair Fermented f.o.b. Accra, varied between £30 and £40 per ton:¹ in 1926-7 prices were high, averaging between £45 and £64 per ton. This was followed by a sharp decline to an average of £38 in 1930 and £24 in 1931. Thereafter the annual price has been as follows:

<i>Accra F.F. in London^a</i>					
<i>Annual average price per ton (spot, exclusive of import duty^b)</i>					
1932	£26	15	0	1936	£31 0 0
1933	23	11	8	1937	38 18 4
1934	22	16	8	1938	25 10 0
1935	23	5	0		

The general trend over the last four decades has been downwards: in the period 1900-13 when the supply of raw cocoa first showed a significant increase, the ordinary grades sold for prices two to three times as high as recent quotations. This general decrease in the price level of cocoa is due to various causes: two important factors are the increasing quantities of low-grade cocoa available as production has expanded in new territories, which, moreover, are areas of low labour costs, and, secondly, technical improvements in the manufacture of chocolates and beverages which permit a larger use of ordinary grades and has resulted in a decreasing demand for cocoa of high quality and costs.

2. COCOA IN NIGERIA

Cocoa, though of increasing importance in the economy of Nigeria, does not play the predominant role in the series of export crops which it holds in the Gold Coast. It ranks only fourth in importance among agricultural exports, and forms only 15 per cent or 16 per cent of the value of the total agricultural products exported from Nigeria. Palm-kernels, palm-oil and ground-nuts all exceed it on the export list.

Nevertheless, the place of cocoa is by no means insignificant. The output increased rapidly in the inter-war years. The average annual output which, for the quinquennial period 1892-1896 was only 32 tons, grew slowly to 6,002 tons in the period 1912-1916. The figures for the quinquennial periods from 1892 to 1936 are as follows:

¹ The Accra price of cocoa is usually taken as reflecting world price trends generally.

² Based on figures published in the *International Year Book of Agricultural Statistics*, 1938-39, p. 839, which is presumably an unweighted annual average of daily quotations.

³ Preferential duty of 11s. 8d. per cwt.

PRODUCTION FOR TRADE

<i>Quinquennial period</i>	<i>Average Annual Export¹ tons</i>
1892-1896	32
1897-1901	144
1902-1906	462
1907-1911	2,375
1912-1916	6,002
1917-1921	17,294
1922-1926	37,017
1927-1931	49,749
1932-1936	75,690

Climatic and rainfall conditions are suitable for cocoa cultivation over a large area of southern Nigeria but its growth on an extended scale is limited by soil requirements. It flourishes best on the soils Type A and F of the Oyo and Ondo provinces and of the Colony and Abeokuta.² Nigerian soils in general tend to accumulate their plant foods at the surface; their acidity increases with depth and the organic matter they contain decreases at the same time, so that when the surface soil is exhausted by continuous cultivation, there are not sufficient nutrients stored in the lower levels to sustain the life of the plant. This may account for the tendency of the Nigerian cocoa plantation established on secondary bush land to die out ten to twenty-five years after planting. Cocoa also grows on the alluvial soils, the shales and sandstones of the Cross river in Ogoja province and it flourishes in the red loam of the Kumba neighbourhood in the Cameroons.

Cocoa farms are to be found even in the acid sands of Benin, Warri and Owerri provinces, though the crop has never done well here. But it was in Calabar, Benin and possibly Onitsha province that cocoa was first introduced into Nigeria, only spreading later to those areas in the western provinces where soil conditions are really suited to its growth and where it has now become the predominant crop. In south-west Nigeria, as in the Gold Coast, it is the product of the native farmer, grown for the most part in small, scattered plots: only in the Cameroons is the plantation method to be found, accounting there for about 40 per cent of the crop.

The areas of heaviest production are to be found in the Yoruba regions

¹ Compiled from the Customs figures and quoted from the *Cocoa Commission Report*, p. 16. As none of the crop is consumed in the country, the export figure can be taken as an indication of the quantity produced.

² Designated as Type A and F by H. C. Doyne, K. T. Hartley and W. A. Watson, in their paper 'Soil Types and Manurial Experiments in Nigeria', contributed to the Third West African Agricultural Conference held in Nigeria in 1938 and published in Vol. I of the Conference papers, p. 227 and p. 237.

of Ibadan, Ife-Ilesha and Ijebu-Ode.¹ The tonnage of cocoa graded² for each district by the Agricultural Department in 1940-41 was as follows:—

				<i>Tons</i>
Lagos	-	-	-	6,692
Agege-Ilaro	-	-	-	8,677
Ijebu-Ode	-	-	-	12,029
Abeokuta	-	-	-	3,124
Ibadan	-	-	-	41,342
Ife-Ilesha	-	-	-	15,647
Ondo-Akure	-	-	-	9,610
Benin-Warri	-	-	-	741
Total	-	-	-	97,862 tons.

Figures for Ibadan and Ife-Ilesha show that 56,989 tons, or about 58 per cent³ of the total Nigerian tonnage, is graded in Oyo province.⁴ The figures from the Ibadan Cocoa Buyers' Union, representing cocoa from buying centres and not from grading stations merely, reveal approximately the area of production. These show that, with the small exception of a little cocoa from Ado Ekiti coming in to Oshogbo and Ilesha, the whole crop graded in Oyo is produced in that province, the main cocoa area lying between the railway and the southern boundary of the province and in a triangular strip to the north of the railway. Assuming an average yield of 500 lb. of dry cocoa per acre, which is a fair estimate, this quantity of 56,989 tons represents an area of some 255,310 acres or about 400 square miles.

Mr. West, botanist to the Nigerian Agricultural Department, estimates on the basis of the figures given for the area and population of the Ibadan and Ife-Ilesha divisions,⁵ that about 6 per cent of the land of these divisions is producing a crop whose value, at an average price of £10 per ton, would be over half a million pounds a year.

¹ I am indebted to an unpublished paper by Mr. J. West, botanist, for these two paragraphs.

² The amount graded in an area does not necessarily represent the quantity produced there, but restrictions on motor transport and the desire to sell the bulk of the crop before a possible moratorium was declared led to a greater quantity of cocoa being brought into the nearest centres in the 1940-41 season than was usual in previous years.

³ If the 7 per cent graded in Ijebu-Ode but coming from Oyo is deducted from the Ijebu-Ode figure and added to the Ibadan figure, the tonnage from Oyo province is raised to 59 per cent of the Nigerian total.

⁴ *Nigeria Handbook*, 1936, 11th edition, p. 28.

⁵ *ibid.*, p. 28.

3. THE NIGERIAN COCOA FARMER

In achieving an export crop of this magnitude the whole structure of the native economy is undergoing a rapid change.¹ The cultivation of food crops is, in some areas, neglected, and food is brought in from neighbouring territories less favoured for cocoa growing. It has been estimated, for example, that one quarter of the farmers in Oyo province now grow no food crops at all, and in the daily market at Ibadan large quantities of yams from other parts of the province, Iseyin and elsewhere, are bought to supply the local deficiency: similarly, yams are purchased in increasing quantities by the cocoa districts of Ondo, from the northern sector of that province.

A greater individualism is evident in the whole attitude of the cocoa farmer: the system of mutual help at busy seasons is rapidly disappearing, and where family labour is insufficient to run the farm, it is supplemented by paid daily labour. At present, the reserves of casual labour drawn upon by the cocoa farmers are composed largely of migrant workers who enter the cocoa district at the harvesting seasons and return to their own homes and their normal routine of life when the picking and fermenting of the cocoa are ended. If they hire themselves for a longer period, it is still generally only for a term of a few months or years, until they have accumulated sufficient ready money to purchase some greatly desired object—a bride, or a corrugated iron roof, or a bicycle.

The picking and fermenting of the raw cocoa beans on thousands of little 'bush' farms averaging 4-6 acres, and their transport by headload from the inaccessible clearings in the tropical forest to a central store or a main motor route, presents a highly difficult and complex problem. This has necessitated the rise of a class of African middlemen to collect and handle the little parcels of cocoa involved, just as the growth of villein flocks in the sheep-rearing districts of England in the thirteenth and fourteenth centuries called forth the wool broker as intermediary between small producers and great exporting merchants. In West Africa, these cocoa brokers often combine their trade with cocoa farming on their own account and with money lending at usurious rates of interest to their clients. The rural African, to whom the handling of money is still something of a novelty, has little idea of the necessity to save: once his crop is realised he tends to spend the income immediately in social festivities or in the purchase of coveted European goods, and may later be forced to borrow to buy the requisite food for his household and to pay such labour as he employs before the next crop is ripe. Hence, the middleman is in a very powerful position; the cocoa crop of his debtors is frequently mortgaged long before it is mature, and the whole or a portion of the farm

¹ See Chapter II, p. 86 f.

itself may have to be pledged if the owner is to meet all his obligations. Considerable properties are thus often acquired by the African cocoa dealer and the dispossessed owner and his sons may become the servants of the creditor with little or no hope of redemption. The African trader in these circumstances may not himself be a practical cocoa farmer at all, but an absentee 'landlord' visiting his little estates at infrequent intervals and concerned only with the sale of the crop. The disintegration of the older forms of society is then complete: the stability of the kindred and family life is swept away and the African finds himself exposed to the perils of a new loneliness and insecurity.

The comparative wealth of the successful cocoa grower is another disturbing element in the situation. Once set on the road to gain, new temptations assail him, which may severely strain the old communal relationships. This is not surprising when the magnitude of the leap which the African is called upon to take is remembered. In the lifetime of a single generation he has been thrust from a primitive tribal society, dependent on a largely barter economy, into the complexity of the modern world market and monetary system: the tangled forest paths have suddenly been replaced by the motor road with its swift mobility for man and goods, and its expansion of the narrow horizons of the village.

For good or ill, however, the Nigerian has entered the export market and is immediately faced with the problem of maintaining his place there through the improvement and the acquisition of new skills and techniques in producing the goods which the world demands. The Nigerian cocoa grower has five main questions to decide:

- (a) What is the best type of cocoa to grow;
- (b) How to increase the output of cocoa per acre by means of more efficient cultivation;
- (c) How to maintain the bearing capacity of the trees as long as possible and how to reclaim plots that show signs of dying or that have already died out;
- (d) How to produce beans of a standard quality by careful fermentation;
- (e) How to market the crop to his own best advantage.

(a) SPECIES OF COCOA

There are roughly four main species of cocoa existing in a more or less pure form:

- (i) Nicaraguan Criollo,
- (ii) Venezuelan Criollo,
- (iii) Cacao Nacional (Ecuador Cocoa),
- (iv) Leiocarpa.

In addition there is the large and important group known as the Forastero or the Trinitario complex, which includes all hybrids resulting from the inter-crossing of the four main strains. For commercial purposes the

two main types recognised are now Criollo and Forastero. The highest priced cocoa is the Nicaraguan Criollo which may command as much as £100 per ton. The Criollos were used by the Aztecs in the form of drinking chocolate before the incursion of Europeans into Central and South America. Their place of origin was probably in Central America, stretching down into Venezuela, where Criollo is still grown in a pure state for commerce, though its area of cultivation is diminishing. Nicaraguan Criollo is also rapidly disappearing, for these high-priced strains are delicate plants difficult to grow and with very low yields: each country of high quality produce has introduced Trinitario cocoa at different times to strengthen the local species or to increase the yield of beans. The general quality of cocoa on the world market has therefore deteriorated.

The *Leiocarpa* type—a high-yielding, but low-grade cocoa—is found as an indigenous plant in Dutch Guiana and over a wide area of the basins of the Orinoco and the Amazon. The West African cocoa plantations are generally attributed to this species, and if this is correct, *Leiocarpa* accounts for about 82 per cent of the cocoa entering world trade. The Trinitario hybrid, which probably first arose in Venezuela through the accidental or purposeful crossing of *Leiocarpa* and Criollo trees, commands a quality premium over the former type in its unhybridized form and accounts for about 15 per cent of the cocoa on the market; the quality varies from country to country according to the strength of the Criollo strain, but it is inferior to the pure Criollos.

Some attempt was made to introduce the Trinitario complex 30 or 40 years ago in both the Gold Coast and Nigeria but the seedlings chosen were of poor quality and have not on the whole flourished on the West Coast. It is still possible, however, to distinguish a number of Trinitario trees on many native farms round Agege in Nigeria; and in the Cameroons the Germans used Trinitario cocoa on all their estates as the basis of their industry.

A very definite limit is set to the improvement of *Leiocarpa* cocoa as it has only a narrow range of variability. Though undoubtedly it could be considerably improved by careful selection from the existing strain in West Africa, the point would quickly be reached beyond which the standard could not be raised.

It has been suggested that the material for improvement will have to be sought among some of the neglected but still existing local cocoas, and their inter-crossing with existing types.¹ In the Trinitario cocoa there is already a wide range of variation from which further selections could be made forthwith. The introduction of a new strain from one of these sources to West Africa will be essential if the quality of her produce is to rise and make cocoa growing a more profitable venture.

¹ Chetman, E. E., 'Recent Botanical Researches in Cacao', *Tropical Agriculture*, v. 16: 4-7, 1939. This reference covers the preceding three paragraphs.

Research into cocoa breeding, selection and growing is a comparatively recent development, dating from 1930 when a research station was opened at Trinidad. Since that date attempts have been made to select strains for breeding which are best fitted to meet commercial needs. One fact of great importance which has emerged is the high percentage of self-incompatibility in trees of the *Trinitario* species; a large number, selected for their high yield, were found to be almost sterile when fertilised with their own pollen, while others were to all appearances completely self-fertile.¹ Seedlings from Trinidad selections of this type, which were established in Nigeria in 1933, proved to be self-incompatible, and types with a greater preponderance of the *Criollo* strain, which were introduced in 1934 from Trinidad and Ceylon, were likewise unsuccessful. In 1937, seedlings from trees, whose pollination had been controlled and which were proved to be self-compatible, were brought from Trinidad and planted on the government farm at Agege where they are now being watched for purposes of further selection.²

The problem before the plant breeder is to obtain a cocoa which will command a higher price in the world market while maintaining the high yields and the hardiness of the present Nigerian *Leiocarpa*. It is impossible to separate the agricultural and plant breeding aspects of production, for the one is the concomitant of the other; manures, which may be uneconomical applied to a low-price crop, may yield a high return which more than repays the farmer if applied to a crop of better quality cocoa.

(b) METHODS OF CULTIVATION

Much remains to be done in discovering more scientific methods of cultivation which will not be beyond the capacity of the Nigerian farmer. A small beginning has been made in Oyo province where the agricultural officer has established 5-acre plots to test the effects of pest control, of different methods of supplying cocoa seedlings to fill gaps in the cocoa plantation and of adjustments of shade, combining these experiments with applications of farmyard and artificial manures in varying quantities. As a preliminary step, the recording of the yields of individual trees on 13 native owned plots was started in 1938.

The maximum yield of cocoa grown under the most favourable conditions has not yet been definitely determined, but it is believed by investigators that a production of 2,000 lb. of dry cocoa per acre is not an impossible goal. Experiment has already shown that, under the climatic conditions prevailing in many parts of West Africa, soil improvement

¹ *ibid.*

² These seedlings were germinated at Kew from pods received from the Imperial College at Trinidad and forwarded thence to Nigeria to avoid the danger of introducing witch broom disease into the country, a scourge which is rife in many of the cocoa growing regions of the world and which has appeared in the Gold Coast.

would result in yields of a very high level. The average yield on the native farms at present is estimated at 500 lb. per acre. The present range achieved on experimental plots in Nigeria and the Gold Coast is from 800 to 1,200 lb. per acre, while the average yield for the Trinidad cocoa plantations under 25 years of age is only 366 lb., though yields of 600 and even 850 lb. have been occasionally recorded.¹ Experiments in manuring carried out in the West Indies have brought an increase in yield of 52 per cent to 70 per cent over that of unmanured plots.

Nigerian soils are nearly all deficient in phosphates and in organic matter and the application of farmyard manure to various crops in many areas has resulted in greatly increased yields. Hence, investigations in this direction may have very important results for the future of cocoa bearing. Already it has been found that the covering of bare patches in the soils of the cocoa grove with a grass mulch has a very marked effect on the growth of the trees. At present, cocoa growing is taken very lightly by the African and regarded as an easy task: weeding is necessary for the first four or five years after planting, but once the shrub is well established the cocoa plantation receives little attention beyond an occasional cutlassing of the undergrowth. Instruction in the care of the trees, in pruning, forking the soil around the roots and regular manuring must form part of any programme to improve the Nigerian crop. The maintenance of dwarf cattle, which are more or less immune to the tsetse fly and whose flesh would add much needed protein to the Nigerian diet, might well be combined with cocoa farming to supply the necessary manure. These animals have been successfully maintained on some of the U.A.C. oil-palm plantations for that purpose.

(c) DISEASE AND RECLAMATION

In both the Gold Coast and Nigeria a serious cocoa disease known as 'die-back' is to be found in many areas, and the economic life of a cocoa farm under the existing regime of cultivation is limited to a comparatively short term. As a rule the decline in yield sets in rapidly after the fifteenth year from the time of planting. In the Agege district, which twenty years ago was one of the most prosperous cocoa-growing areas in the country, many farms are now derelict and covered with grass or a poor growth of secondary bush, while throughout the cocoa territory, individual farms are to be found whose trees are dying out rapidly.

Die-back is a vague term signifying a debility disease, due probably to conditions of drought, water-logging, exposure to drying winds or poverty of soil and in which fungus growths, such as the black pod disease, which has appeared in the wetter areas of the Nigerian cocoa country, also play a part. In the past, the principal cause of die-back in the Gold Coast was

¹ Hardy, E., 'The Maximum Yield of Cocoa', *Tropical Agriculture*, v. 16: 179-191, 1939.

believed to be drought induced in many places by deforestation which exposed the cocoa plantations to the desiccating effects of the *harmattan* (the dry wind from the north). However, it is doubtful, in the light of more recent experience, whether too much stress has not been laid on the drying effects of the wind, and die-back is now mainly ascribed to the combined effects of the *sahlbergella* bug and swollen shoot. In some quarters, however, in Nigeria, drought is not considered the sole factor and at present cocoa is most severely affected in those areas with a rainfall of 60–75" a year, for example, the wetter parts of Oyo and Ondo, while in the drier parts of Oyo with a rainfall of 45" die-back is much less pronounced. Consequently, cocoa plantations established in unsuitable soil and the ravages of *sahlbergella* are two hindrances which must be taken into account here. Neither on the sandy soils of Benin nor in the eastern provinces has it been possible to establish healthy cocoa farms, though the effort has been made both by Africans and by the Agricultural Department. Even in the south of Ondo province, where the virgin forest is extensive and the rainfall is 65–75" per annum, die-back is rampant, as the soil, though of sandy texture, has not sufficient nutrients for the cocoa plant. If the moisture is stored at levels below the reach of the cocoa seedling roots and there is a very low water content in the surface soils during the dry season, it is also difficult to sustain the young plants in the initial stages of growth. This has been found at Ibadan where a large proportion of year-old seedlings die annually. In trees of all ages at the end of the dry season, signs of die-back are visible in many parts of the cocoa territory, due to the lack of moisture in the soils.

Secondly, *sahlbergella* has appeared in the wetter areas of the Ondo division and the Oshan valley and is causing much damage. Leaves and twigs attacked by this pest wither and die rapidly and are left with a scorched appearance which has given rise to the name 'blast' for this form of devastation. As the only method of control so far discovered is to pick these creatures off the trees by hand, and as this is highly impracticable, the damage tends to spread rapidly.

The swollen shoot disease, which is playing such havoc with the Gold Coast cocoa plantations, has not yet been discovered in Nigeria, and every effort is being made by the Agricultural Department with the means at its disposal to guard against the risks of infection. But black pod, caused by a fungus growth, has attacked the Nigerian groves on a considerable scale. In 1932, the Agricultural Department estimated that the annual loss of cocoa in the western provinces due to this disease was 4 per cent to 12½ per cent, a situation which they suggest can be regarded neither as catastrophic nor as negligible.¹ Frequent harvesting and removal of the damaged pods is the best protection, as sanitation methods are too costly for the Nigerian farmer.

¹ *Annual Report on the Agricultural Department, 1932, Nigeria*, p. 33.

A secondary cause of deterioration is found when the thick canopy formed by the foliage of the mature plantation is broken through the death or removal of a single tree. It has been customary to maintain in the past that the density of cocoa trees on an African farm is too high, but experiments made in thinning mature cocoa to rectify this overcrowding have had disastrous results. Instances are known where the trees adjacent to the member which has died or has been felled also die rapidly in the following seasons; an expanding area open to the rays of the tropical sun and the downpour of the rains is thus created, and further deaths from exposure among the trees bordering the open space will occur, so that in time the whole plantation may die out. This in turn may affect the humidity of the atmosphere and the quality of the soil in that area, now exposed without protection to the merciless forces of sun and rain. Similarly, the removal of forest trees, reducing the atmospheric humidity and breaking the shelter from cold or drying winds, may ruin the plantations growing in their shade.

Proper maintenance and the restoration of the dying cocoa plot are, therefore, urgent questions in any programme of agricultural education. Until a better knowledge of the whole ecology of the cocoa tree has been attained by the agricultural expert, he can do little to guide the African farmer with any assurance. This involves a study of soils, of atmospheric and rainfall conditions, of the capacity of the tree itself to capture and store the requisite moisture, of methods of fertilisation, of the requisite density of the trees on a plot, of the incidence of pests, and so on. Only the preliminary stages of such an investigation have as yet been embarked upon and that on a very small scale in one or two parts of the cocoa district.

On the government farm at Agege experiments in the maintenance and restoration of cocoa plots have been initiated. The work ranges from a plot of young cocoa not yet in bearing, to a plot in the worst stages of degeneration, on which the trees have completely died out. But the whole experiment only comprises four half-acre plots. In addition, the Agricultural Department is trying to obtain a large area of cocoa near Ibadan, cultivated by Africans, for purposes of yield recording and manurial experiment.¹ Similar efforts, directed to the recovery of derelict farms and the halting of further deterioration, are being carried on at Moor Plantation in Ibadan and other places, but the total area covered is under 12 acres. In 1938, the third conference of West African agricultural officers recommended that cocoa research should be centralised in the Gold Coast, and the research station at Tafo has been giving attention to Nigerian problems and conditions. But unless a far more fundamental and widespread scheme of painstaking and long-term research is embarked upon, it will prove almost impossible for the government agricultural officers to give advice or to attempt large-scale methods of improvement

¹ *Annual Report on the Agricultural Department, 1937, Nigeria, p. 26*

with any degree of confidence.¹ Experience has shown the danger of concentrating on advance in one direction which may disturb the balance of conditions favouring healthy growth and bring in its train unforeseen evils.

(d) FERMENTATION

Nigerian cocoa was formerly of a notoriously low quality largely owing to faulty methods of preparation, which made it, up to 1922, the worst on the world's markets. The efforts of the Agricultural Department eventually led to a change in this state of affairs, first, through instruction in methods of fermentation and preparation, and secondly, through the introduction of a scheme of government inspection and grading of produce for export in 1926, which applied in the first instance to palm-kernels, cocoa and cotton.

The first attempts of the department to improve matters lay in the employment of itinerant African instructors, who travelled from farm to farm teaching the peasants how to ferment their cocoa, but no general improvement in the standard of Nigerian cocoa resulted. The middlemen buyers dealing with the farmers would not give a higher price for the small parcels of better quality cocoa, which they turned out by adopting the new methods, and the farmers would not go to the extra trouble of preparation when they could get no premium over the unfermented produce. This initial failure in the attempt to improve an African product has been a common experience with other crops than cocoa.

In 1922, the position was so serious that the department decided to start a series of small societies run on semi-co-operative lines which would instruct producers in the preparation of cocoa for the world market. In that year, eight small fermentaries and drying houses were established in Oyo province, the cost of the houses (some £20 each) being met by the native administrations, while the running expenses and cost of supervision were supplied partly by the native administrations and partly by the Agricultural Department. The houses were large enough to deal with 12 or 15 tons in a season, i.e. the produce of about 60 to 80 acres. Farmers were invited to bring in their wet cocoa to these centres for drying and fermentation, each farmer either receiving his produce back, when ready, for direct sale to the middleman, or handing it over to the department for sale in bulk with the cocoa of others taking advantage of the scheme; each man in this case received his due proportion of the proceeds. The condition of membership of one of these informal associations was the provision of free labour to build the drying houses.

¹ Since this was written an important development has taken place resulting in the establishment of a cocoa research team on a West African basis with headquarters at Tafo. A team of some fifteen European workers has been got together under a director of research and it is believed that the work will be coupled with extensive surveys to determine the incidence of disease throughout the cocoa areas in Nigeria and the Gold Coast.

At first only very small parcels of cocoa were brought in to the fermentaries, but when it was found that the beans thus prepared were sold by the department at a considerable premium (£3 to £5 per ton) over the best prices otherwise obtainable, it began to come in rapidly. In the following six years, the number of fermentaries increased steadily and were established in other districts, till the whole of the Nigerian cocoa-growing area was covered; the volume of cocoa passing through the fermenting houses grew from the 80 tons handled during the first season (1922) to 802 tons in 1927-28. In 1925-26, 718 tons passed through the fermentaries of Oyo province. But thereafter the total in this, the first experimental area, dropped by about 50 per cent, and remained at this lower level for the next 3 years; while, for the cocoa-growing districts as a whole, the total reached its peak in 1927-28 and showed a decline in the following years. This was due to the larger proportion of improved cocoa prepared on the individual farms. The farmers were encouraged from the outset to prepare their cocoa on their own farms along the lines suggested by the Agricultural Department, and to bring it into the fermentaries when dry, where it was tested and, if up to standard, was bulked and sold with the parcels prepared in the central fermenting houses. The proportion of cocoa handled in this way and prepared under supervision only, grew steadily from year to year; by 1926 an increasing proportion was being fermented on the farms and sold direct from there, so that the quantity handled by the co-operative fermentaries gradually decreased. There was sufficient fully fermented cocoa coming on to the market by 1926 to gain recognition and to obtain a small premium from the exporting firms. Many farmers, though not getting the full value of their crop when selling independently, nevertheless preferred this course to avoid transport and to gain control of ready cash; others continued to seek the higher premium obtainable through co-operative sales.¹

Parallel to this development in improved methods of preparation, a system of government inspection and grading of cocoa was initiated in 1926. As early as 1921 preliminary steps were taken to gain the support of the European traders in setting up a grading system for cocoa purchased for export. At first this met with opposition, but in 1926 the Agricultural Department made the experiment of grading for defective beans only; when the quality of Nigerian exports showed rapid improvement, grading according to the extent of fermentation carried out was adopted also in 1928-29. After various adjustments four main grades were established.²

¹ See *Annual Report on the Agricultural Department, 1928*, Nigeria, p. 10.

² *Ibid.*, 1931, para. 59, and 1932, paras. 92 and 93.

Grading of Cocoa Beans

Grade I.	Less than	5 per cent	insufficiently fermented.
	" "	5 per cent	defective or germinated.
" II.	" "	10 per cent	insufficiently fermented.
	" "	10 per cent	defective or germinated.

[Note continued on following page.]

The growth in the percentage of Grade I cocoa produced in Nigeria since 1929 is shown in the following table.

TABLE XLIII
GRADING OF MAIN CROP COCOA—WESTERN PROVINCES
1929-38

Proportion of Grade I cocoa expressed as percentages (to the nearest whole number) of the whole main crop cocoa¹

	Grade I	Grade II ²	Grade III	Total main crop
1929-30	9	—	—	41,300 tons
1930-31	9	—	—	37,750 "
1931-32	13	—	—	46,050 "
1932-33	18	72	10	53,650 "
1933-34	17	73	9	47,550 "
1934-35	27	68	5	56,200 "
1935-36	29.9	69.2	0.8	67,000 "
1936-37	19.35	80.23	0.42	80,144 "
1937-38	21.93	77.76	0.30	70,890 "

The marked improvement in the quality of Nigerian exports is thus primarily due to the initiative and energy of the Agricultural Department and to the unflagging effort and patience of its staff.

(e) CO-OPERATIVE MARKETING

The success of the co-operative fermentaries led the Agricultural Department to carry this form of association into the sphere of marketing. They had recognised from the outset that, to establish any form of co-

Grade III. Class C. Less than 20 per cent insufficiently fermented.

Other Grade III. " " 8 per cent defective.
Any content insufficiently fermented.
Less than 8 per cent defective.

Grade IV. 8 per cent to 20 per cent defective.

Grade I was markedly superior to the general standard of West African 'Good Fermented' and obtained a premium of £1 per ton over 'Fair Average Quality' when bought by the local firms. Grade II could claim a premium of 10s. per ton over F.A.Q. Grade III Class C was saleable as 'Fair Fermented'.

In 1932, the grades were finally altered, as the result of changes made in the importing countries, the American Government changing its standard of beans free from mould or weevils permitted to enter the U.S.A. in accordance with its stringent 'pure food' laws. Grade I remained without any important change, Grade II now represents the old Grades II and III combined, but with a stricter standard, the present Grade III is the old Grade IV plus the cocoa which would classify for the old Grade III but not the new Grade II. This change caused the quantity of Grade IV to increase from about 2 per cent to 8 per cent of the whole of the Nigerian crop.

¹ Main crop cocoa = cocoa weighing over 11 oz. per 300 beans, changed to 10½ oz. per 300 beans, 1935-36.

² The standards for Grades II and III were changed on October 1st, 1932, so figures for these grades are not given prior to that date.

(Compiled from *Annual Reports on the Agricultural Department, Nigeria.*)

operative association on a permanent basis, it would be essential ultimately for the local societies to manage their own affairs and to bear their own financial responsibility. The scheme progressed most rapidly in the Ife and Ilesha districts, and here in 1924-25 African agricultural societies, which were already in existence but serving no very definite purpose, were re-organised and given the very definite object of selling collectively cocoa which had been adequately dried and fermented on the local farms. Each society had a paid secretary appointed to it for the general oversight of its affairs, and members paid 3d. to 6d. per cwt. on all their cocoa sold by the society, thereby supplying the means to meet running expenses. The Agricultural Department continued its close supervision of the scheme, but the central fermentaries had fulfilled their purpose and were allowed to lapse.

There was a similar African agricultural society at Ibadan, though it was of an equally abortive character from the farming aspect, being composed mainly of townsmen and traders. The department attempted to re-organise this on the lines of the Ife societies, but without success. In 1929, a body known as the Ibadan Co-operative Planters' Association was formed, but it was again largely a society of middlemen, some of whom might perhaps own cocoa farms which they either leased or worked by paid labour under a foreman, but who were in no sense farmers themselves. The association bought fermented cocoa from the growers and sold it in bulk to the export firms. In 1930, it shipped 400 tons of cocoa direct to New York, but the money received from this transaction was lost through an absconding secretary and the failure of a local bank. These unfortunate experiences were, of course, a great blow to the furtherance of co-operative marketing in the area, but in 1933, under the encouragement of the Agricultural Department, a number of small village societies were formed and were united a year later in the Ibadan Co-operative Union, which now embraces 49 affiliated societies. The union consists of four delegates from each society, and has a managing committee. Cocoa is delivered to the union's store by each society when it has collected enough for sale, and sales are held twice weekly by the union in the cocoa season. A commission of 3d. per cwt. is charged to the societies for the cocoa sold by the union to assist the administrative expenses of the latter, and the union undertakes extensive educational and propaganda work for the spread of co-operative ideals and methods.

In Ondo, a successful marketing society with several branch stores in the surrounding district was initiated with the department's encouragement, and a series of small village societies similar to those of Ibadan were developed in the more outlying regions.

The co-operative fermenting of cocoa was started at Kumba in the Cameroons in 1927, following on the success of the scheme in the western provinces, and efforts to form farmers' marketing societies were initiated

in 1931. These local societies proved successful and in 1933 the Kumba Co-operative Marketing Union was formed, to which they were affiliated. The membership of these affiliated societies had grown to 2,335 in 1937, and 900 tons (a record figure) of dry cocoa was sold through the union that year. The village societies are scattered over a wide area in the division and transport costs vary from village to village. Co-operative fermenting still continues here, and the dry cocoa is bagged and stored either at the fermentary or in one of the union's stores. When a considerable quantity of cocoa has accumulated, the Kumba Union, still with the assistance of the agricultural officer, negotiates a sale with the European firms in the locality. Final payments to members for their cocoa are made only once a year, but the union issues loans early in the season when members are short of ready cash, and when the cocoa is brought in to the fermentary an advance up to half its value is made. The total of such loans and part payments amounted to £3,857 in the 1937 season.¹

By 1934, the co-operative movement in the cocoa-growing districts of Nigeria was so far advanced that it was felt that time had come to set these series of village societies in different areas on a more definitely co-operative basis. A set of model rules was drawn up, a co-operative ordinance was enacted in 1935, and in 1936 a registrar was appointed to supervise and develop the embryonic movement.² All the societies are in course of passing from the care of the Agricultural Department to the supervision of the registrar, a transfer which is now nearly completed.

Since 1934 the Nigerian co-operative marketing societies have shown a slow growth though they still handle only 4 per cent of the total crop. In 1931-32, there were 1,710 members of the loosely organised farmers' societies, dealing with 724 tons of cocoa. In 1933-34, when the first step was taken towards setting these groups on a more clearly defined co-operative basis, the active membership had risen to 4,877 persons, handling 1,608 tons of cocoa, and the total cash receipts of the societies were £18,813 in that year. By 1936, there were 70 co-operative marketing societies in Nigeria and 100 co-operative fermentaries in the Cameroons, with sales of 3,698 tons. In 1938-9, the membership had increased to 9,468, the cocoa handled by the societies amounted to 5,059 tons, and their cash receipts totalled £64,081. The total reserves of the societies have shown a corresponding growth from £577 in 1933-34 to £4,344 in 1938-9.³

Nevertheless, the very small share of the cocoa trade handled by the

¹ *Annual Report on the Agricultural Department, 1937, Nigeria*, p. 27, and the *Third West African Agricultural Conference*, Vol. I, p. 351.

² Members of local societies are now required to take one share of 5s. each and to pay an annual subscription of 1s. In the Ibadan Union affiliated societies may be called on to take up shares to the value of £10, and to pay affiliation fees of £1 and annual subscriptions of 5s.

³ See *Report on the Progress of Co-operation in Nigeria, 1938-9*, p. 7, Appendix 1.

co-operative societies is a factor that cannot be overlooked. The African's suspicion of new methods of combination; the vested interests of local African tribal chiefs wielding considerable political influence, and the inherent conservatism of the individual with his aversion to change, all play their part in retarding progress along these lines, and are formidable obstacles to advance.

Marketing costs to the farmer, it is claimed by the advocates of co-operation, are greatly reduced by co-operative selling. The Chief Registrar of Co-operative Societies in Nigeria states that in 1936-7, 3,242 tons of Nigerian cocoa were marketed at a cost of £2,612 or approximately 16s. per ton. This figure does not include the cost of transport from farm to society's store or the cost of bags in which to pack the cocoa, but he thinks it unlikely that these items would raise the total average cost of co-operative marketing to a figure higher than 30s. per ton. 'An impartial investigator', he adds, 'has recently estimated the average cost of marketing to the farmer under the prevailing middleman system, at about £3 to £4 per ton.'¹

The thrift and loan functions of the societies are, however, at least as important as their marketing operations, and make an appeal to the farmer, particularly to the younger and more far-seeing. Loans are granted to the farmer by his co-operative society on the security of his cocoa crop at a fixed rate of 3d. per £ per month, or 15 per cent per annum repayable during the next season. His application is considered in relation to his previous sales, and the amount he could borrow for such purposes as the ever-important marriage or funeral expenses would be strictly limited. It was hoped by this means to institute a sound credit system, but development is limited by the very slow growth of capital available, as the co-operative movement in Nigeria has worked on the principle that all such capital must be provided from within itself. It is drawn from three sources, (1) the 5s. per member share capital; (2) appropriations made from the annual

¹ *Third West African Agricultural Conference*, Vol. I, p. 348.

Of the 16s.

5s. 6d. was spent on transport.

3s. 6d. on secretaries' salaries.

2s. on handling charges and labourers' wages.

1s. on fares of secretaries and committee members.

1s. on depreciation.

3s. on maintenance of buildings, rent, postage, stationery, entertainment and miscellaneous.

The Nigerian co-operative societies do not limit themselves to exclusive sales to European exporters; they sell by secret tender to all buyers, European, African, Syrian. It frequently happens, however, that the European firm can offer the best price under a competitive system of marketing, as the African buyer has both to cover his own risk in transferring the cocoa from farmer to exporter, and his commission. In the 1937-8 season, when the Buying Agreement entered into by the European firms decreased the premium offered for co-operative cocoa since there was no scramble for tonnage, a large proportion of the co-operative cocoa in Ibadan was bought by Syrians and Africans. (*ibid.*, p. 347.)

profits of the societies; (3) interest on loans granted to members. Hitherto, the payment of share capital has been limited to 5s. per member, to ensure equality of holding and to prevent wealthy members from buying up shares and so coming to exercise an unduly preponderating influence in the affairs of the local society. It is proposed now in some societies to remove this limitation, providing only that the Co-operative Societies Ordinance, which demands that the share holding of any individual member shall not exceed one fifth of the total share capital of a society, is observed. At the same time efforts are being made to persuade farmers to hand in small deposits to their societies; a steady stream of such deposits would not merely encourage thrift at the height of the cocoa season, but would enable loans to be greatly extended, even if the deposit were for a comparatively short term.

A further main task of the co-operative movement is to train an African administrative personnel, capable of appreciating the aims of the movement and loyal to its ideals. From the outset great stress has been laid on the necessity for scrupulous honesty in dealing with the affairs of the local societies. One of the chief difficulties in starting the societies as genuine co-operative groups on a self-supporting basis was that of finding men of initiative and integrity to act as the chief executive officers. Many of the paid secretaries who were engaged were unemployed youths, who, after a short course at Moor Plantation to train them for their new work, might be posted to a society in a province where they were complete strangers. The opportunity for theft and the falsification of accounts must have been great, but it is interesting to note that of some £140,000 paid out by the firms in Nigeria for co-operative cocoa in 1936-37, of which the bulk passed through the hands of the young African secretaries, less than £30 went astray. When it is remembered that the salary of these young men is in the neighbourhood of £9 per annum, and that the money has to be transported over long distances by lorry or by foot, this record is all the more significant.¹

The commission appointed to enquire into the marketing of West African cocoa after the hold-up of 1937-38 advised the government to throw its main energies into promoting the co-operative system of marketing in Nigeria, and estimated that in 5 years' time it would be possible to develop the movement sufficiently to deal with 30,000 tons of cocoa per annum.² But the committee appointed in Nigeria to examine the recommendations of the commission felt this to be an over-sanguine estimate, and that such rapid development was neither possible nor desirable.

The chief advantages to the African farmer of membership in a co-operative society may be summarised as follows:—

First, and foremost, it limits the extent of the indebtedness he can incur,

¹ *ibid.*, p. 349.

² *Cocoa Commission Report*, para. 547.

provided he borrows exclusively from the co-operative society, and frees him from the burden of exorbitant rates of interest payment to African middlemen.

Secondly, it ensures that he gets the full market value of his cocoa, and that he is not cheated by the measure buyer or by the manipulation of faulty scales. Outside the protection of the society, the farmer is exposed to the keen winds of competition under a system of marketing where he is liable to be cheated and underpaid at every step.

Thirdly, the costs of marketing and transport are considerably reduced.

Fourthly, he gains a sense of solidarity from the fact that he is a member of an efficient marketing organisation, called into existence solely to ensure him fair treatment and as good a price as possible for his produce, and in whose management and transactions he has an active share and responsibility.

4. BUYERS AND TRADERS

Certain changes in the methods of the export firms as regards the purchase of cocoa had become evident in the years immediately preceding the war of 1939. On the eve of the second world war there were 11 main European firms trading in cocoa in Nigeria, each of which maintained a system of buying stations throughout the cocoa area.¹ The larger of these were under the management of a European, the smaller under an African clerk. Most of the European export firms operate through the African commission buyers described by Professor Forde,² but a recent tendency has been for firms to establish bush depots and to deal direct with the scalemen, a step first taken by Cocoa Manufacturers Ltd., who found it difficult to obtain the quality of the cocoa they required at Ibadan.³ This move has

¹ European firms trading in cocoa in Nigeria:

(1) The merchant firms with a business in imported merchandise:

The United Africa Company.

Messrs. G. B. Ollivant Ltd.

The Compagnie Française de L'Afrique Occidentale.

The Union Trading Co. Ltd.

Messrs. John Holt and Company (Liverpool) Ltd.

The Société Commerciale de l'Ouest Africain.

Paterson, Zochonis and Company Ltd.

Messrs. G. L. Caisar.

Messrs. Witt and Busch and C. Zard.

(2) The manufacturer consumers not engaged in trade in imported merchandise:

Cocoa Manufacturers Ltd. (Messrs. Cadbury Bros. Ltd., Messrs. J. S. Fry and Sons Ltd., and Messrs. Rowntree and Co. Ltd.).

The English and Scottish Joint Co-operative Wholesale Society.

² See above, pp. 98-99. A further discussion of the role of the companies, from a different angle, will be found in Volume II, Chapter II.

³ Apart from the Cocoa Manufacturers Ltd., the other European traders are not anxious to enter the outlying markets, as it would increase their overhead costs, but they will do so in competition for tonnage if the advance of these important buyers into the bush compels them to follow suit.

been much debated in African trading circles, and is regarded generally with uneasiness. The native administrations in some instances have refused to grant or to renew leases for bush depots, and the Nigerian Produce Traders Union, an organisation of African traders whose members are independent buyers, working on their own capital, strongly oppose this development. They fear that the export firms will sweep away the middlemen entirely, and will come in time to deal direct with the farmers. Then the problem of advances will arise; the firms, they argue, will make advances to the farmers, and on the assumption that the latter will become more and more deeply involved in debt, the European traders will attach their lands, and thus Europeans will gain control over African territory. Another fear is that the firms with their large resources will be able to buy at a loss until competition is dead, and will then fix their own price for cocoa.¹

A widespread activity on the part of the European buyers in the up-country markets would undoubtedly curtail still further the activities of the independent middleman, who is already being largely replaced by the commission buyer, and he would probably disappear within a short time. The pan-buyer would retain his position so long as the farmer is unwilling to dry and prepare his cocoa for market, and also, so long as the producer remains in his debt. If, through more widespread publication of the market price of cocoa, the farmer were able to get better terms for his produce and in time to pay off his loans, the pan-buyer also might disappear from the scene. The scale owners, on the other hand, would tend to find more business accruing to them as the direct intermediaries between farmer and exporter; growing competition and the increase in their numbers, coupled with the regular publication of the price of cocoa, would, however, limit their rate of profit. The commission buyer would find a new opportunity of employment as storekeeper in the bush station because of his extensive knowledge of the trade. Agricultural indebtedness might not show any signs of abating and might even increase as the competition grew among the scale owners in pressing loans on the producer on more favourable terms, but their rivalry would tend to reduce the rate of interest. So long as no price agreement prevailed among the exporting firms, the cocoa producer would be in a better position to get the full market value for his crop if leases in the bush were granted to the European exporters; at the worst, he could more easily ascertain the true market price before selling under these conditions. The retail African village trader would benefit from the increased income of cocoa farmers, if the European firms were not allowed to open retail stores but had to confine their activities to cocoa buying. Hence, the present tendency towards the bush market is not necessarily against African interests and may benefit the farmer ultimately by reducing the number of middlemen interposed between

¹ See for a full discussion of this question Volume II, Chapter II.

himself and the exporter, provided that the power of the European firms to fix prices according to their own interests is not increased by it. This, however, is a large proviso and it may be that the fears of the native administrations, referred to above, are justified.¹

The function of the state in the marketing of agricultural produce in the post-war years is, however, the basic question for Nigeria. To understand the significance of the present position it is necessary to glance at the West African cocoa trade and its tensions over the past years. In January 1937, cocoa prices soared to 59s. per cwt. (ex quay Liverpool) as compared with 23s. for the same period in 1936, a boom which was largely promoted by rumours of shortage in the Gold Coast crop. A month later prices began to decline and fell steadily to the previous low levels. Simultaneously with this collapse, the European cocoa firms entered into a buying agreement, by which it was hoped to control extravagant cash advances from middleman to farmer and to pay to the latter the price of cocoa ruling on the world market, minus overseas transport and marketing costs. The coincidence of this move with the fall of prices led the African farmer to attribute his low returns to the buyers' monopoly. In Nigeria, despite much grumbling, no action was taken, but in the Gold Coast, where European education and political awareness are further advanced and cocoa plays a larger part in the total economy, farmers held up their sales, and instituted a boycott of European merchandise. The boycott lasted from November 1937 to April 1938, and the cocoa trade of the Gold Coast was brought to a standstill. A government commission was appointed by the Secretary of State for the Colonies to enquire into the disturbance, and when it was known that the government was thus taking action, sales were gradually resumed. An *export ordinance to ensure the orderly liquidation of stocks* which had accumulated in the Gold Coast was introduced, and by September, 1938, they had been mostly disposed of and prices had somewhat recovered. The commission appointed to enquire into the marketing of West African cocoa decided that the buyers' agreement had not in actuality depressed prices, but that such a monopoly was certainly open to suspicion. Their recommendation was that the agreement should be dissolved, and, on the other hand, that the African cocoa producers should be organised into what would be in effect marketing boards, amounting to a local sellers' monopoly. So far as the improvement of world cocoa prices was concerned, the commission stressed the fact that West Africa could do little or nothing by itself, but suggested the possibility of an international agreement, which would benefit the colonies.

A special committee was appointed to implement the decisions of the report, but by the spring of 1939, no further practical steps had been taken. Purchases of cocoa by Britain and the U.S.A. fell steadily, and the

¹ See Mr. Mars' conclusion in his Chapter on Extra-territorial Companies in Volume II.

London price, dropped to 21s. per cwt., while, as a result of heavy purchases at the end of 1938, the stocks in traders' hands had much increased. The outlook for the cocoa trade was a gloomy one when war broke out in 1939. In November of that year the British Government undertook to buy the whole of the West African cocoa crop of about 400,000 tons at the ruling market price, and in December a Central Cocoa Organisation was set up under the Ministry of Food, with Mr. John Cadbury as director, and an advisory committee of selling organisations and government officials. All purchases were to be made through shippers on the basis of fixed quotas.

The loss of the important German market, coupled with those of Holland and Scandinavia, led to a great accumulation of stocks, and the pressure on storage space was so heavy that the British Government decided to destroy the mid-season crop. In November 1940, changes were made in the central buyers' organisation. A West African Cocoa Board under the chairmanship of the Secretary of State for the Colonies, was set up to supervise the purchase and marketing of cocoa in the Gold Coast, Nigeria, and the French Cameroons, employing the firms and individuals normally engaged in the cocoa trade for this purpose. The board was to sell to the Ministry of Food the quantity of cocoa required for consumption in the United Kingdom. The amount produced was estimated at some 400,000 tons as in 1939-40. As this was again much in excess of the quantity needed 15,000 to 20,000 tons, representing the mid-season crop, were destroyed, the African farmers being paid less to help to counterbalance the loss.

Hence, with the outbreak of hostilities in 1939, the cocoa producers were given a guaranteed price for their crop—albeit a low one. A new and hitherto unknown element of security and stability was brought into the cocoa market; 'the European firms for the first time in their history secured from public authority a cover for their costs and reasonable profit, together with export quotas safeguarding them against disloyal and competitive practices inside their own circle and the competitive assaults of outsiders.'¹

By this control of marketing, the old system of bitter competition between the European firms, alternating with periods of combination, has been suspended and the government has become the controlling factor between the contending forces.

The new proposals of the government for the marketing of West African cocoa in the post-war years leaves that position substantially unchanged.²

The White Paper on cocoa control in West Africa, published in 1944,³ while urging the policy of fostering and developing the co-operative movement in West Africa in general, seeks a different solution for the problem

¹ Hancock, *op. cit.*, p. 219, footnote 1.

² I am indebted to the Editor for the two following pages.

³ *Report on Cocoa Control in West Africa, 1939-43*, Cmd. 6554 (1944).

of marketing West African cocoa. In order to avoid at least short-term fluctuations of price, the direct link between producers' prices and world market prices must be broken and this, according to the White Paper, will best be achieved by continuing the present system of buying all cocoa at uniform prices and selling to the world markets by special organisations created for the purpose. These will be set up in the Gold Coast and in Nigeria: they will be responsible to the colonial governments and will act as trustees for the producers.

In Nigeria, the supply branch of the Nigerian administration, or whatever post-war organisation may be created to succeed it, will undertake these functions and an advisory committee will also be set up which will be representative of the producers and other interests concerned, though it is contemplated, at least in the Gold Coast, that the producers will eventually constitute the majority. In order that the local organisations may be able to maintain a steady purchase price policy, they need to start with adequate funds and it is therefore proposed to allocate to them a 'substantial proportion' of the profits on the cocoa transactions of the West African Produce Control Board over the period 1939-43. These amount to £3,676,253 (of which Nigeria's share is £1,169,906) and this sum will be increased by the transactions of 1943-4. From these profits, a sum of £1,250,000 will also be taken to pay the capital and endow the recurrent costs of the new cocoa research station which has been set up under the Resident Minister.

It will be seen that this statement does, in effect, reject the recommendation of the commission on the marketing of West African cocoa with regard to a single co-operative marketing organisation for the producer, but it is also clear that the new system will greatly affect the part played by the buying firms and the African middlemen.

This scheme has met with some interesting criticism. That of the firm of Cadbury, which buys for manufacture, is relatively mild, though it is pointed out that the task of fixing the producers' price, especially in the face of a falling demand, will be embarrassing, and also that the new board will be one run in the interests of the producers in a country remote from the play of consumer opinion. The fear is also expressed lest a board in control of large funds might also embark upon manufacture for export.¹

The stronger criticism of the merchants has been expressed in indignant tones from the United States by Mr. Isaac Witkin, President of the New York Cocoa Exchange and General Cocoa Company.² He brands the scheme as 'monstrous', and accuses the British Government of setting up a state monopoly which will control half the world's cocoa supply, and might at some time combine with French and South American producers to control some 80 per cent. He states that America buys almost 50 per

¹ 'Cocoa in West Africa', *The Bournville Works Magazine*, Feb. 1945.

² *The Journal of Commerce*, New York, Nov. 1, 1944.

cent of the world's cocoa supply and 55 per cent of the West African crop. He regards the scheme as an infringement of the Atlantic Charter, as it will prevent free access to raw materials, and quotes words from the report which suggest to him that the system might be extended so that 'the enchainment of cocoa would be only the pattern and prelude to the enchainment of all world commodities', and there would thus be an increasing spread of 'the leprous virus of bureaucracy'. Mr. Witkin concludes with a scheme of his own which would forbid buying pools; would allow the Produce Board to fix fair prices in consultation with British and American interests and would buy all produce offered at no higher than 80 per cent of the declared minimum price. The produce thus bought would be offered for sale to all world markets on a basis of world consumption. The sales would be made freely to the highest bidder in each market. An equalisation tax of 10 per cent on the minimum price would be levied from the shipper and used, with any capital earned by the board, as a subsidy to the farmer in periods of low prices.

Criticism has also come from the Africans. Meetings of protest have been held in the Gold Coast and Nigeria. It would appear that the traders were especially vocal at these meetings and that the control plan was condemned on the general ground that it was an interference with liberty and with that free competition which some Gold Coast farmers called 'the soul of trade'. 'The farmers owned their produce and were fully entitled to dispose of it in the way they liked.'¹ It was asserted that farmers were traders as well as producers and it is interesting to note that reference was made to the views of the President of the New York Cocoa Exchange. A message from Lagos in *The Times* of March 13th, 1945, showed that the criticism of the Paper was strong in the Legislative Council. 'Unofficial members are strongly opposed to the White Paper on cocoa control in West Africa. They emphasise that, first, the British Government should consult all the interests in the United Kingdom and West Africa; secondly, that the control after the war of the buying and selling of cocoa is undesirable; and thirdly, that the profit already made by the control of cocoa should be allocated solely to research, to the preservation of the crop and to assisting farmers to apply more productive methods.'

It will thus be seen that the attempt of the Colonial Office to meet by controlled marketing those long-standing problems of the West African cocoa industry, which have been discussed in this book, is meeting with opposition from most of the interests concerned.

¹ *The Daily Service* (Nigeria), Jan 29, 1945. For a more favourable African opinion, see *West Africa*, Nov. 25, 1944. In the same journal, for Dec. 4, 1944, a talk on the wireless about the scheme by the Economic Adviser to the Gold Coast Government is reproduced.

5. CONCLUSION

The fundamental problem of the Nigerian cocoa grower, however, is not a question of marketing, but a problem of maintaining production and improving his crop. Mr. Shephard, in his study of the Trinidad cocoa plantations, has stressed that it was a declining yield which precipitated the crisis in Trinidad.¹ The need for investigation as to how the Nigerian crop may be maintained and improved, as we have already indicated, is becoming urgent.

When faced with the warning of Trinidad, whose exports fell from 27,000 to 11,000 tons in 8 years (between 1929 and 1937) as a result of the sharp decline in yield, the Nigerian position takes on its true proportions. Only by ceaseless experiment on a far larger scale than at present in the attempt to improve the Nigerian crop, to combat disease and to maintain the fertility of the soil, can the Agricultural Department hope to save Nigeria from the same fate. The danger of the spread of witch broom disease from the Gold Coast, and of the existing black pod and sahlbergella pests in Nigeria appear in their true significance when viewed in relation to the fate of other cocoa-producing regions.

Future progress in the cocoa area must be part of a general policy of rural planning and development. But certain specific suggestions apply particularly to this area.

(i) A preliminary survey should be undertaken of the land on which the cocoa is grown in Nigeria, as the initial stage of the long-term research scheme suggested above, with reference to the soils best suited for its cultivation, the age and condition of existing farms, and the amount of forest land left available for new planting.

(ii) The survey should include also the economic and social conditions of these areas, embracing the size of the farms, costs and efficiency of production, the conditions of land tenure and systems of marketing available.

With this volume of knowledge to call upon it might then be possible to consider the more fundamental aspects of production in the cocoa area. The system of land tenure is already changing as we have seen, and the question arises as to the new forms which are to replace it. There is room here to explore the optimum size for the cocoa plantation, and to consider if something larger than the existing family holding is to be sought, whether there might be possibilities of co-operative production undertaken by neighbouring farmers, combined with individual household cultivation of the food crops. A more thorough-going system of collective cultivation on the lines of some of the Jewish agricultural settlements in Palestine, which follow the Russian model, might also be examined.

Secondly, there is need for greater diversification of production in the

¹ Shephard, C. Y., *The Cocoa Industry of Trinidad*, Series I, 1932; II, 1936; III, 1937 (Port of Spain).

cocoa districts, so that large areas of the land are not dependent on a single crop, exposed to the vagaries of the international market. The exploitation of forest products in the neighbourhood of cocoa plantations, particularly of timbers which might be suited to African requirements if the possibility of utilising them were opened up, is one suggested line of exploration here.

In this connection, the cocoa research conference, called at the Colonial Office in May 1945, is a most hopeful beginning.¹ This conference recommended that the West African institute should concentrate its energies on examining the incidence and the methods of combating the swollen shoot disease. It proposed that the British chocolate manufacturers might co-operate in research to improve the quality of cocoa. Further, it urged the Department of Agriculture in each producing colony to carry out a thorough survey of the cocoa areas, including both economic and sociological conditions, and asked that the department should then undertake the task of educating peasant cultivators to apply the results of such research. Thus, the cocoa-producing areas through research and experiment could be fitted into the long-term agricultural policy of the colony as a whole.

In these ways the combination of a subsistence household economy with production for the world market may be eased for the Nigerian cocoa farmer, and he may learn to play his new part in the life of the nations in the post-war years as a member of a co-operative community.

¹ *Report and Proceedings of the Cocoa Research Conference*, Colonial No. 192, 1945.

Chapter VIII

LIVESTOCK INDUSTRY

The livestock industry of Nigeria is an important element in the economic life of the territory. It includes the production of fresh meat both for internal consumption and for export to the neighbouring country of the Gold Coast; the production of hides and skins for use in local crafts and for export to Europe and the United States; the development and utilisation of animal products such as butter, ghee and clarified butter fat for the home and overseas market; the breeding of poultry and egg production for home use.

Large horned cattle can be reared only in the northern provinces of Nigeria which lie outside the belt of tsetse infestation. There are three foundation strains of cattle prevailing generally in the African continent, the 'Hamitic' longhorn, indigenous to the country, the dwarf shorthorn, originally imported from Asia, and the Zebu humped cattle, also deriving from Asia.¹ From these a number of strains have been evolved in the course of the centuries, but they are not distinguished commercially. In the north, there are three local types of the Zebu which are clearly defined: the white Fulani cattle, beautiful in appearance with their sweeping horns and long, narrow faces, found all over the northern provinces; the red Shuwa from Bornu, a smaller animal usually considered too small for draft purposes, and the Godali. In the south and among the pagans of the north, a dwarf humpless breed of shorthorn is found, measuring only 36 in. from the ground to the withers, and of about 400 lb. in weight.² The animal does not figure in the export trade of the country either as meat or in the form of by-products, and the numbers maintained are comparatively small: about 200,000 is suggested as the total for the southern provinces.³ At the cost of great deterioration the dwarf animals have become acclimatised to the southern forest environment and have developed a high degree of resistance to the attacks of the tsetse fly, but it has so far proved impossible to use them for draft purposes.

The local cattle strains of the northern provinces form a good basic stock for selection for breeding purposes. This course is usually advocated in preference to the introduction of fresh strains, as the European breeds

¹ The facts given here are based upon the available evidence but it is recognised that more investigation is needed before any certainty about the strains of Nigerian cattle can be reached [Editor].

² Ross, S. D., 'Nigerian Cattle Types', *Farm and Forest*, v. 5: 52-58, 1944.

³ Hay-Barclay, H., 'Hides and Skins in Nigeria', *Bulletin of the Imperial Institute*, v. 36: 472-482, 1938.

do not usually do well in tropical conditions. The Nigerian cattle mature late, seldom before 6 years of age, and the birth-rate is very low, cows in many parts producing calves only every other year. The milk yields, as is usual in unimproved African cows, are also low; the average yield during the period of lactation of only a few months is suggested to be between $\frac{1}{4}$ and $\frac{1}{2}$ gallon per day.¹

(a) THE CATTLE TRADE

Although meat is not an important item in the diet of most Nigerians because they can seldom afford to eat much of it, nevertheless, in the south the production of the small local animals falls very far short of the demand in that area. Over 100,000 large cattle from the north are brought to the southern provinces every year, some by rail, but mostly on hoof, for slaughter in the southern markets.² A number of these come from French territory, being driven across the border and sent to the south with the Nigerian-beasts. The majority of the large cattle of the northern provinces are owned by the pastoral, and still largely nomadic people, the Fulani, who, in their wanderings in a great circle from Bornu to Sokoto, on to the plateau and back, may take 10 years or longer to complete the cycle of journeying from pasture to pasture. The Fulani are the key point, therefore, in problems of stock improvement and the further development of animal products with which we are dealing in this chapter. The Fulani have already been discussed by Professor Forde among his examples of native economies;³ they will be considered here for the part they play in the general picture of Nigerian production and trade.

The animal population of Nigeria has never been accurately counted, but the Director of Veterinary Services estimated in 1940 that the total head of livestock approximated to 5,000,000 cattle, 10,000,000 goats and 4,000,000 sheep at that time. The *jangali* tax paid by cattle owners in the north at the rate of 1s. 6d. per head produces some £300,000 annually, but it is common knowledge that a large number of evasions take place every year.⁴ In addition, prior to the outbreak of the second world war, some 100,000 cattle were driven each year across the border from the adjoining French territory to the north, and were sold in the Nigerian market, the hides and skins being exported with the Nigerian products.

The Veterinary Department of Nigeria has been very active in the past ten years in the attempt to control disease by means of regular inspection and inoculation, thus increasing the head of stock within the country,

¹ du Toit, Dr. J. P., *Report on Livestock Problems in Nigeria*, Nigerian Sessional Paper No. 5 of 1927.

² Further information from Nigeria since this was written suggests that the records are on the conservative side and that the total number may be nearer 200,000 [Editor].

³ Chapter IV above.

⁴ See the Chapter on Public Finance in Volume II.

and removing the menace to the further development of livestock and livestock industries. Inspection stations were established on the French border in 1934, and under the rules passed by the native administrations of the northern provinces, no trade cattle may now be brought into Nigeria without passing through one of these centres, where they are given an injection against rinderpest and in some cases against pleuro-pneumonia and blackwater.¹ The cattle, if they appear healthy, are then allowed to proceed on their way, passing certain specified control posts along the routes which they are compelled to follow. The inspection stations and control posts are in charge of native inspectors under the direction of the veterinary officers of each province. Inoculations against rinderpest and other diseases have been practised continuously since 1925, cattle being treated at immunisation camps established in different provinces. By this means the disease, which was making disastrous inroads on Nigerian livestock, has been greatly curtailed, and measures are now being taken for the control of trypanosomiasis on the routes traversed annually by the Fulani on their long journey from Sokoto or Adamawa to the south, when they enter the fly infested area. The increase in the number of animals which can be looked for in the near future, as the battle against disease gains new successes, implies a corresponding growth in the volume of animal products which will have a growing significance in the economy of the country.

The demand for fresh meat in both the northern and southern provinces is not inconsiderable. On the basis of figures supplied by the various Residents, the Director of Veterinary Services suggests that on an average at least 300,000 cattle are slaughtered annually in the markets of the north, and a further 120,000 in the south, for home consumption. The demand will tend to increase rapidly with any rise in the internal standard of living. There is also quite an appreciable trade in live cattle to the Gold Coast, which only possesses about 160,000 head of its own, of which a very large number are dwarf animals. Exports to the Gold Coast in the last few years have been between 1,000 and 3,000 head of cattle per annum and have by no means satisfied the existing demand. Before the present war, imports of meat from French territory were developing, and it was even being brought in tins from Britain and the U.S.A. In both the Gold Coast and Sierra Leone, with their large mining communities and their small cattle populations, there is a big potential outlet for the Nigerian meat trade.

The cattle trade between north and south is in the hands of big dealers, mostly Hausa, who act as the middlemen between the Fulani and the southern purchasers. These dealers may buy on a considerable scale and require a substantial capital; it is not uncommon for a Hausa trader to spend £200 at a time in the purchase of livestock. In 1939, the price of slaughter cattle varied from 10s. to £8 according to size, weight and con-

¹ *Annual Report on the Veterinary Department, 1935, Nigeria*, p. 6.

dition.¹ As it takes at least three months for the animals to complete the journey from the pastures of Sokoto, say, to Abeokuta, a trader may have several hundred pounds locked up in the cattle on the road on which he cannot look for any return for several months, and during this period there is always the risk of mortality from disease.²

Some idea of the scale of these movements from north to south may be obtained from the following figures, the record of animals passing on hoof across the Jebba bridge, which is one of the main points of crossing over the Niger.

Cattle and Sheep Crossing Jebba Bridge

<i>Year</i>	<i>Cattle</i>	<i>Sheep</i>	<i>Goats</i>
1936	100,847	79,198	423
1937			
1938	73,500	86,500 (sheep and goats)	
1939	88,233	93,387 " " "	
1940	96,538	100,116	1,751

In addition the following animals left Kano by rail for the south:

<i>Year</i>	<i>Cattle</i>	<i>Sheep</i>	<i>Goats</i>
1936	23,590	10,946	1,850
1938	37,000	20,000 (sheep and goats)	
1939	37,523	17,200 " " "	

Others would come into the southern provinces on foot by different routes, for instance in 1936 an additional 14,000 cattle passed through Adamawa province on the eastern road, and in 1939, 23,380 cattle and 29,771 sheep and goats came in *via* Ago Are.³

Each big trader has his own agents at important stopping places on the route, and the town of Ilorin is the great entrepot of the trade. Much has been done by the Veterinary Department in recent years to improve conditions both for the drover and the beasts on the main cattle roads; in addition to the inspection posts already mentioned as a safeguard against the passage of diseased animals, efforts are being made to clear scrub and undergrowth from the roadsides and the banks of streams, the breeding ground of the tsetse fly, to limit the risks of infection. The department is also trying to provide fodder supplies and water on the tracks followed by the cattle, and rest camps for the drovers, though little has yet been achieved in this direction. The West African Commission appointed by the Leverhulme Trust in 1938-39 stressed the loss in condition suffered by the stock in these long journeys, particularly after they enter the tsetse-infested area, and the scarcity of grazing provision on the routes. The

¹ The average price at Jos in 1940 was stated to be £1 per year of the animal's life up to a maximum of about £5.

² See also the *Leverhulme Commission Technical Reports*, paras. 351-8.

³ *Annual Reports on the Veterinary Department, Nigeria*.

animals railed from Kano to Lagos also suffer much; the journey is made without a break, and feeding or watering the cattle in the trucks is both difficult and dangerous.

(b) MEAT MARKETING

Lagos is one of the big meat markets of the south, and may be taken as an example of the organisation of the meat trade. On arrival the animals are driven in to the municipal abattoirs for slaughter and are purchased by local dealers either on the hoof, when they are killed for a fee, or by the carcase. The two most substantial dealers are a Syrian and an African, who finance the bulk of the retail trade here, which is entirely in African hands. The carcasses are sold by these two big traders on a day-to-day basis. The bulk of the meat is beef; the average number of carcasses disposed of in the abattoirs in 1940 is given as about 60 per day, averaging 6 cwt. in weight or a total of 360 cwt. There are 120 meat stalls in Lagos market, so that on these figures each stall holder would take about 3 cwt. a day including bone, which is not bought for consumption.¹

Each stall is held by a man and his family, though it may frequently be sublet to a friend or relation. The retail butcher always controls the earnings from his sales of meat, but his wife receives the income from the sale of intestines, which are sold by length. The butcher has to pay 2s. rent a month for his stall and provide his own utensils. The meat is carried from the abattoir to the market in municipal lorries, but the butcher must pay labourers to carry the carcase from slaughter house to lorry and from lorry to stall. The market is open daily from early morning to late at night and sometimes through the night. The wholesale price of beef is now fixed at 3½d. per lb., the retail price at 6d. per lb., exclusive of bone. African informants state that it is impossible to estimate the butcher's average profit, and no statistics are available, but they suggest that a retailer who sells from 1½ to 2 cwt. of beef a day (exclusive of bone) at 6d. per lb. might make a daily profit of 10s., though this is a mere guess.

In the northern markets, apart from Kano and a few other large towns, the meat trade is on a very much smaller scale. A countryman in the rainy season may go for a month or more at a time without eating meat. In the small local markets only a goat or two will be slaughtered, and a day will frequently pass on which no animal is killed; even in the dry season it is only in a big town that more than one bullock will be slaughtered on a market day, and very few sheep are consumed at all. The butcher in the north, therefore, is by no means wealthy. He will combine his trade with cultivating a small farm, though, as he has to spend much time in touring the local circuit of markets, he is not a very regular or steady farmer.

¹ See *Leverhulme Commission Technical Reports*, para. 356, where it is noted that the African does not purchase bone to the extent we are accustomed to in a sirloin or similar joint.

The butchers of the north likewise divide into two groups: the slaughterers who buy the animals from the Fulani cattle drovers, and the retailers who make individual bids for portions of the carcase.¹ The slaughterer may be a man with a little capital sufficient to enable him to buy lame animals from passing herds and to fatten them up before killing, in which case he may make from 50 per cent to 100 per cent profit. More commonly, two or three will join together to purchase cattle, paying 15s. to 20s. for an old cow and 30s. to 40s. for a better beast. They also buy goats from the neighbouring villages at 3s. to 4s. each. If they cannot raise sufficient money to pay cash on the spot, the villagers and the Fulani, who are resident for the time in the neighbourhood, will usually grant credit until the meat is sold. The slaughterer fixes the price of meat to make the profit he desires, and also sells the hide or skin.

The retail butchers take the meat on credit, paying in the evening after the day's sales, so that they do not need any capital. But they have to pay the price agreed upon by the slaughterer even if the amount with which they are left is insufficient to cover their expenses. Those who are selling dried meat pay cash for their portion of the carcase, as several days must pass before they can dry and sell their goods.² This meat drying is a primitive process; the raw meat is cut into strips and either sun-dried, or a circle of skewers is erected and on these the meat is pegged round a fire lit in the open market.

(c) STOCK FARMING AND FAT-STOCK PRODUCTION

At present, very few of the animals sold for slaughter are in prime condition; the majority would rank as moderate and many as definitely poor, particularly towards the end of the dry season. It is only in the case of a few hundred animals coming from the district immediately around Kano that any attempt is made deliberately to fatten them for the market and these animals are transported by rail. Most of these go to the Gold Coast and fetch a considerable price which may be as much as £4 above that of the medium animal.

Since the outbreak of the second world war a scheme for fattening young sheep has been started by the Veterinary Department at Ilorin, where the herbage is of exceptionally good quality. It is the only place in Nigeria where special efforts are made to fatten mutton and has so far proved very successful. The scheme is carried out entirely by African farmers, but the Veterinary Department is in charge of the marketing arrangements. The lambs are sent by train to Lagos for slaughter; the carcasses are retailed locally and supplied also to ships in the harbour. Mutton was in great demand by the troops stationed at Lagos and the average price there for

¹ Professor Forde has dealt at some length with the butchers of the north in Chapter III, so that a brief recapitulation of the main points suffices here.

² Giles, L. C., *The Hausa Village and Co-operation*, 1937 (unpublished).

this superior meat was 6d. to 8d. per lb., while in the northern markets mutton of the ordinary quality realised only 1½d. to 2d. per lb. The scheme began in June 1939 and by the end of the year some 12,000 lb. of mutton valued at £304 had been produced.

Fat meat is greatly relished by the clerical and artisan classes in Nigeria, and efforts are being made to improve the home product. Two experiments have been initiated in the past two or three years which may have important bearing on the future of the livestock industry. They include attempts both to increase the number and quality of store cattle for the meat market and at the same time to improve and strengthen the fertility of the soil on the small native farms of the northern provinces. Store cattle are issued to the native farms by the Agricultural Department for intensive fattening over a period of three to six months. The by-products of the farm which would usually be burnt as waste matter—bean straw, ground-nut and sweet potato tops, etc.—are utilised, and a little bran is perhaps purchased in addition. The cattle are tethered throughout the period in shady patches, and the manure is composted. At present, only one bullock, a two-year old white Fulani, is issued to the farmer at a price of 30s. to 35s., *which he meets by a loan from the native administration. At the end of three months the animal, under this course of feeding, will have increased in weight by at least 2 cwt.; the farmer can then either sell it or keep it to fatten still more for a further three months. The sum which the bullock will realise at the end of the full period will be sufficient to entail a net profit of £4 to £6 to the farmer. The manure of even one bullock utilised on a 4-acre farm in the north has been found, for reasons which are not yet fully understood, to result in an extraordinary increase in the productivity of the soil. With the profit obtained both from the sale of the animal and of surplus crops from the increased yield, the farmer is enabled to pay off his existing loan and to purchase two bullocks for the following year, repeating the same process of fattening and of composting the manure, and he can continue progressively year by year up to the limit of his fodder supplies for the animals. By this means, a large additional supply of meat, in good condition, will become available for the general public within the country and for export to neighbouring territories.*

Secondly, the Veterinary Department has taken the first tentative steps to wean the Fulani from his nomadic life, and to turn him into a more scientific stock farmer. Only a very small-scale experiment has so far been initiated during the past eighteen months, with a few Fulani herdsmen on the Jos plateau near Vom, but the group has proved very enthusiastic. The purpose is to give each Fulani family unit an area of land round the cattle kraals on which fodder crops¹ can be grown and conserved by ensilage for feeding to the stock in the lean six months of the dry season,

¹ The fodder crops suggested are maize and guinea-corn for ensilage, ground-nuts and sweet potatoes.

when the natural herbage is poor and scanty, and the animals would normally move down to the river valleys in search of fresh grazing. Each family unit may own as many as 300 to 600 head of cattle or even more, and the animals roam widely over the neighbouring countryside during the grazing season. Much of this land is farmed by pagan tribes, who own no cattle themselves but practise a form of shifting cultivation over a large area; it is from these tribes that the land is alienated for Fulani cultivation. But in return for the transfer of a portion of their large communal lands, the pagan farmers will receive manure both from the grazing cattle and from the farmyard, when the herds are gathered near home in the dry season. This will increase the fertility of their remaining soil so that a more intensive form of cultivation requiring less land will be possible, combined with a greater output of food crops. The cattle should improve in health and physique with better food supplies and there will be a large surplus for despatch to the meat market.

If fatstock production increases on the scale anticipated, Nigeria, within a few years, will be producing by these and other means some 50,000 fat cattle annually. It is also conceivable that the mixed farmer in the north, might find it so profitable to combine cattle fattening with arable cultivation that he would be disposed to sell his crops in the form of meat rather than of grain.¹ Extensive and good quality pastures, which could support a far greater head of livestock than at present, exist in the province of Bornu; the plateau is nearing saturation point, and there is over-grazing already in some areas. Here development lies in mixed farming and the systematic growth of fodder crops. If, despite all the difficulties, the Fulani herdsman can be turned into a sedentary stock farmer, taught to increase the quality rather than the quantity of his cattle, Nigeria has a great future in the development of her livestock industry. The northern provinces could easily and rapidly become the great source of supply of milk and meat products not only for Nigerian territory, but for the whole of British West Africa.

(d) IMPROVEMENT OF STOCK

The work of improving the strains of Nigerian cattle and developing mixed farming in the northern provinces has fallen to the lot of the Agricultural Department, while the Veterinary Department has taken the initiative in the long and weary battle against disease, in improving or introducing new products of the dairy industry and in finding outlets for that produce. The Agricultural Department has carried on an experimental stock farm at Shika since 1933. In 1937, when the failure of attempts to introduce a green manure crop in the rotations of the middle and southern belts was apparent, an experimental farm was opened at Ilorin, with a grant from the Colonial Development Fund to cover the initial capital expenditure, while the Nigerian Government made itself

¹ See Chapter III, pp. 177-178.

responsible for the recurrent expenditure. Dwarf cattle from the Gold Coast had been imported by the Ilorin native administration as early as 1932; these animals are larger than the Nigerian and therefore suitable for draft work in the tsetse belt. The government farm took over this stock from the Ilorin native administration and also purchased cattle from Gambia and Dahomey with Zebu characteristics for a trial in the tsetse area. Unit farms of 10 acres each were established, two in the Ilorin emirate and two in Oyo province, for experimental purposes, and managed by a farmer with one assistant; the farmer was supplied with two working bullocks, two cows and one yearling. The farm was divided into acre fields and a simple rotation was devised by moving one acre's crops to the next annually. The five beasts at a unit farm will produce 10 tons of farmyard manure in a year; the farmer is taught methods of stall feeding, using the waste products of the farm as in the north, while a green fodder crop is also included in the rotation where possible. The plan is to grow fodder grasses in strips on the farm boundaries and through the other crops, providing sufficient grass for grazing on the farm throughout the year.

The animals are supplied from the government stock farm at Ilorin, and it is intended to establish a larger central demonstration farm with 100 acres of arable, 40 cows and 20 working bullocks, on which the methods suitable for application to the unit farms can be tested out. Twenty unit farms are envisaged in different parts of Ilorin province, where hitherto it has not been possible to use a larger draft animal, owing to the rapid onset of trypanosomiasis; the farms are at present worked by hand and are fertilised with the manure of dwarf cattle kept for that purpose.¹

The importance of this experiment is demonstrated by the fact that in the southern provinces the application of 4 tons of farmyard manure was found to increase the yield of an acre of yams by 14 per cent. Further large-scale trials proved that an enormous increase in the yield both of maize and yams follows such small applications as 2 to 4 tons of farmyard manure per acre.

The problem of soil deterioration is one of the great difficulties facing the densely populated regions which have grown up in parts of south-east Nigeria. One of the main questions before the Nigerian farmer even in less crowded areas is how to preserve the fertility of his soil, as limits are set to the practice of shifting cultivation by the development of new economic and social conditions. The evolution of farming systems which will enable the essential restoratives to be put back into the land at a cost which the farmer can meet is one of the first necessities, and may be within sight by the successful extension of the Ilorin schemes.²

¹ Pedder J. W. R., 'Preliminary Notes on Cattle Improvement and the Possibilities for Mixed Farming in the Middle Belt and the Southern Provinces of Nigeria', *Tropical Agriculture*, v. 17: 43-49, 1940.

² For further detail, see Chapter II, p. 104.

(c) HIDES AND SKINS

A very important adjunct of the cattle trade is the utilisation of the hides and skins of the slaughtered beasts. (Hides come from cattle and skins from sheep and goats.) The export of these to Europe and the United States is already of considerable proportions; they form roughly between 8 per cent and 9 per cent of the total annual value of Nigerian exports. The bulk of these are sent overseas in their raw state after flaying and drying, but a number are tanned locally by Africans before shipment, and the greater proportion of the latter find their way into the internal market for local manufacture of leather products, shoes, bags, etc. by native craftsmen. It is not possible to give any estimate of the number absorbed in this considerable internal trade. Leather work was an early Nigerian industry; Kano leather was famous in Europe in the Middle Ages, under the name of 'red Morocco', and the northern markets to-day carry a vivid display of brilliantly dyed and embroidered saddlery and other leather goods. The poorer and least satisfactory skins are now usually passed on to the native tanner, which restricts the foreign market for the sale of the craftsman's leather articles; but the better quality leather, which has found its way from Nigeria, is popular with the English manufacturer for upholstery and bookbinding, as it has proved very resistant to the destructive atmosphere of European commercial and manufacturing cities. The British manufacturers have expressed their readiness to take larger quantities if the standard could be improved.

The volume of exports of both tanned and untanned produce has been growing and has remained at a high level over the past ten years.

TABLE XLIV
EXPORTS OF HIDES AND SKINS,¹ 1933-39

	<i>Cattle Hides</i>	<i>Sheepskins</i>	<i>Goatskins</i>	<i>Total</i>	<i>Total</i>
	<i>lb. Value £</i>	<i>lb. £</i>	<i>lb. £</i>	<i>lb.</i>	<i>Value £</i>
1933	7,626,454 £178,879	1,430,510 £77,623	4,369,672 £338,513	13,426,636	£590,015
1934	7,788,019 £189,061	1,707,974 £108,879	4,541,897 £417,601	13,987,890	£715,541
1935	9,600,691 £223,692	1,572,518 £97,277	5,052,585 £452,837	16,225,794	£773,806
1936	9,833,396 £243,183	1,376,961 £101,144	4,585,751 £417,524	15,796,108	£761,853
1937	10,174,396 £289,293	1,697,825 £128,255	4,808,540 £458,693	16,680,761	£876,241
1938	7,087,420 £153,548	930,077 £40,043	5,086,841 £322,297	13,104,338	£515,888
1939	9,572,323 £190,622	1,760,212 £65,301	6,210,431 £456,137	17,542,966	£712,060

¹ It is understood that the value and numbers of hides and skins have greatly increased since 1942, but these figures are not available for publication. In 1940 the trade amounted to £640,872 and in 1941 to £610,792.

Even if 20 per cent of the skins exported are estimated to come from animals entering Nigeria from French territory, a liberal allowance, the figures for Nigerian produce in the year 1939 represent over 5½ million hides and skins, so that the importance of this aspect of the Nigerian livestock industry needs no further emphasis.

The export trade is in the hands of the European firms. As the demand from overseas has increased to an extent which could not be met in some years, more and more of the exporters have entered the business and competition to secure the trade has become keen. The firms employ African middlemen to tour the hundreds of markets, large and small, scattered throughout the northern provinces, and to buy direct from the African butcher. Native traders, acting independently, are also to be found buying in the various markets to sell again to the exporter at one or other of their trading stations established throughout the area. From these smaller buying centres the hides and skins are sent on to one of the main depots for final preparation before shipment.

In 1927, complaints were received from the Glacé Kid Tanners Association that a number of their purchases from Nigeria revealed blemishes in the skins, appearing only after tanning, and that this was involving them in considerable loss. Investigations were, therefore, set on foot by the Veterinary Department, who found that the main causes of the complaint lay in bad flaying and faulty drying of the skins. A scheme was evolved to try and improve matters. Butchers in several hundred of the more important markets of the northern provinces were instructed in methods of flaying and drying; the sharp pointed knife which frequently cuts the skin during the process of flaying was replaced by a curved blade much less liable to puncture the hide, while in the case of sheepskins and goat-skins the butcher was taught to use the knife only for initial cuts and to complete the flaying by drawing and punching with the hand. Travelling inspectors move from market to market to see that the new methods are carried out. Secondly, open sheds were erected in the larger markets for drying the skins in the shade, allowing free circulation of air all around them. In the small bush markets where the number of beasts slaughtered would hardly warrant the cost of these sheds, the butchers have been taught to stretch the hide on a frame or pole in the open, when the results, though not so good as those given by shade drying, are nevertheless vastly superior to the native method of pegging the skin on the ground. Gradually, even in these small markets, the practice of shade drying is extending by the erection of crude but satisfactory sheds made from local material. In 1937, the Government of Nigeria introduced a system of stamping hides and skins with the sign or number of each market by the head butcher or by the permanent native inspector, where one is installed, so that the origin of any hide or skin can be traced and faulty preparation can be followed up. One thousand and five prescribed markets in the northern

provinces were included in this scheme in that year, and it is estimated that 27 per cent of the hides and 67 per cent of the skins exported can now be identified as to place of origin. In 1942, a draft ordinance enabling the Governor in Council to initiate legislation governing methods of flaying and drying was introduced, so that the hitherto voluntary adoption of these methods now becomes a compulsory routine. The urgent necessity for this regulation is shown by the fact that despite the voluntary system of inspection and control, Nigerian shippers in 1939 stated that at least 20 per cent of the hides and skins brought to the local markets still showed signs of defective drying. On the export figures of 1939, allowing 20 per cent for skins of French origin, the figure of Nigerian shipments was 5,768,000, so that there was thus a loss of £24,000 to the Nigerian skin trade in that year from improper drying alone, quite apart from the loss on skins exported as sound whose damage was not detected until the process of tanning, estimated by the Director of Veterinary Services as representing at least a further £8,000.

Some little time ago an officer experienced in the hide trade in England was appointed to Nigeria to indicate a system of grading and classification and to suggest further means for improving the industry. As a result, Nigerian hides and skins are now classified in three, or sometimes four, grades; the difference in price between the best and the worst quality may be as much as 3s. per hide in the case of cattle, or 9d. per skin in the case of sheep and goats. Hence the adoption of improved methods of flaying and drying has led the butchers more and more to sell direct to the export firms through their African agents rather than to the independent native middlemen, as the latter offer a fixed price for every hide and skin sold in a lot, irrespective of its quality, and this price must be low enough to ensure the middleman a margin of profit when he resells the lot to the European exporter.¹

Further improvement in the trade in skins has been made in recent years by a scheme of selective breeding of the famous Red Sokoto goat and the only slightly less valuable Kano Brown, found in the Katsina and Kano provinces. The Red Sokoto holds a unique place in the world's markets, and is the source of coloured leather for glacé kid shoes. The best skin, which should measure about 4½ to 5 feet square, weighs about a pound and is worth 3s. to 3s. 6d. per lb. Eight or nine years ago, owing to the high prices offered, there was an indiscriminate slaughter of Red male goats, and the proportion of the Red breed in Sokoto province declined rapidly. The females were mated haphazard with inferior animals of any colour, many of them rams from French territory, and the quality of Sokoto skins deteriorated rapidly. By a drastic programme of wholesale castration of non-Red goats, undertaken by the Veterinary Department, the total of

¹ See also *Leverhulme Commission Technical Reports*, para. 371, for further suggested improvements in the marketing of hides and skins.

Red animals on the farms throughout the province has been raised from 30 per cent to 75 per cent since 1936. It is difficult to overstress the importance of this measure for the Nigerian trade; nearly every African farmer in Sokoto has a little flock of from 10 to 20 goats roaming around his house and the neighbouring fields, and 1½ million goatskins are exported annually from this province alone.

Similar measures of selective breeding were also undertaken for the Kano Brown goat; its skin is only slightly inferior to the Sokoto Red, and will realise from 2s. to 2s. 6d. per lb. for the highest grades. In Bornu there is another type of goat, larger but of inferior quality; this skin, which is used for the manufacture of suede leather, is valued at about 1s. 6d. per lb. for the primes, but it weighs nearly twice as much as the Sokoto and Kano skins.

The prevalence of disease, particularly in the form of lesions of various kinds due to skin infection, is a serious handicap to the export trade. It has been estimated that defects due to this cause are sufficiently widespread to affect appreciably the market value of 10 per cent of all goat-skins offered for sale to the exporter, but no curative or preventive measures applicable to Nigerian conditions have so far been discovered. The whole question is under active investigation.¹

(f) DAIRY PRODUCE

The internal market for dairy products has been stimulated by the 1939-45 war with its curtailment of overseas supplies. Butter made by skimming cream from the milk and shaking it in a gourd, has been produced for centuries by the Fulani herdsmen, and it is sold with sour milk in the local villages near their grazing sites, but no organised dairy industry existed in Nigeria before the outbreak of war in 1939. Butter and cooking fats for Europeans, and for such native consumption as existed in the south, were all imported: some 72,000 lb. of butter came into the country annually from overseas, principally from New Zealand, and was finding a ready sale among African clerks and artisans in the towns. In October 1939, the first dairy was established at Vom by the senior veterinary officer and immediately commenced production. A second dairy was established at Kano in 1940. An officer of the Agricultural Department was trained at Vom and eventually took over the Kano dairy which is now run by that department on behalf of the Kano native administration. The industry was planned with a view to steady expansion and in 1941 a third dairy unit was opened at Jos by the department. The output of these, working at full capacity, is now 20,000 lb. of butter per month in the dry season, and in May 1942, with the onset of the rains, production rose to 38,342

¹ Two big chemical firms in England have turned their attention to this problem and it is quite possible that the position will be different within reasonable time.

lb., with a value of £2,556. At Vom during 1942 production of fresh butter amounted to 325,000 lb. The department at this time was buying over 76,000 gallons of milk and paying cattle owners in all £40 a day for their produce. A number of cream-separating units have been set up, each drawing on a radius of about 5 miles, the limit of the distance over which fresh milk can be carried without turning sour. The separated cream is brought in by lorry from these units to the two dairies for conversion into butter. The price paid to the cattle owner for milk is 4d. to 4½d. per gallon: there was no market for fresh milk previously, as it is not used by the African apart from the herdsman, but the value of the native sour milk purchased by villagers near the Fulani grazing grounds was $\frac{5}{8}$ of a penny per gallon. The butter retailed by Fulani women was sold formerly at 1½d to 2d. per lb. so that the new dairy industry has brought a considerable growth of income to the cattle area. The dairy butter is sold to retailers at 1s. 4d. per lb., and is in turn sold by them to the public in Jos, Kano and Lagos for 1s. 8d. to 2s. per lb., according to the distance from the seat of production, while imported butter is retailed at 3s. 3d. per lb.¹ The milk yields of the Fulani cattle are low but the butter fat content of the milk is exceptionally high, from 4·5 to 6·5 per cent.

At present, fresh milk is not drunk by the African, despite its value as an article of diet, particularly for young children. A fresh milk industry has been successfully built up in other tropical countries with similar climatic conditions, and there is no reason why one should not be established in Nigeria. Both at Lagos and Ibadan dairies are operated by the Agricultural Department. Cows on the point of calving are brought down from the Shika stock farm and kept for their lactation period at the dairies. When they go dry they are served and returned to Shika. Both at Ibadan and Lagos the White Fulani or Sokoto breeds are used, which cannot normally live in the southern belt on account of trypanosomiasis. This difficulty has been met by fly-proofing the dairies. The daily production of milk at Lagos is thought to be higher than 30 gallons a day but exact figures are not available. In the northern provinces the Kano dairy has also begun to retail fresh milk, and sales for the first quarter of 1942 amounted to 21,000 bottles.

To show how modest are the beginnings of the dairy business it is worth remarking that the whole dairy industry employs only about 80 full time workers, but it is believed by the Veterinary Department to offer great possibilities. At present the milk supply of only two small areas has been tapped. Although the army was a valuable customer, there is a growing internal demand among the native population, and there is no reason why the dairy production of the north should not supply the requirements of the whole country following the end of the second world war.

¹ This price puts even locally produced butter outside the reach of all but the highest African income-group [Editor].

Experiments in cheese-making have also been started. At Vom 700 lb. are now manufactured each month, the price of which is 10d. per lb. With the requisite plant and organisation, it is estimated that the plateau could produce 20,000 lb. in a season and the cheese, which is of the hard, Cheddar type, could be sent far afield without any special cold storage facilities.

At first, the separated milk from butter-making was returned to the cattle owners, but they refused to utilise it and threw it away: the department, therefore, decided to retain it as a valuable by-product for bacon fattening. A white pig was imported from the Gold Coast which had previously introduced foundation English stock. The animal proved equal to the climate and immune from local diseases. The progress made in pig-breeding and bacon production in the Gold Coast enabled Nigeria to advance rapidly. Piggeries have been established at most of the milk buying units and at Vom and Jos. Fattened on local ground meal, sweet potatoes and skim milk, a very fine bacon pig is turned out. The animals are killed at 30 weeks for bacon production at a weight of at least 140 lb. The pork is sold at 8½d. per lb. dead weight. Production figures were very small up to 1939, but Vom is now producing 10,000 lb. of bacon per month, worth over £500. The pork and bacon are railed to the south as there is, of course, no immediate local market among the Mohammedans of the north. The Veterinary Department believes, however, that the scheme could be extended by teaching the Fulani to keep pigs for fattening in sties, and that the production of pork and bacon might be increased to meet the bulk of the demand in the south and in the Gold Coast by such means. Pig production is also being encouraged by the Agricultural Department as part of the campaign for mixed farming, and pigs are sold to pagan and, to some extent, to Hausa farmers in the northern provinces. The pigs are purchased as weaners and fattened at the Agricultural Department's farms at Shika, Samaru and Daudawa for subsequent sale.

In 1931, the production of an improved form of ghee, a clarified butter,¹ was initiated by the Veterinary Department at Vom on the suggestion of Sir Donald Cameron, to demonstrate the use of this product as a source of edible fat. The ghee produced from Fulani butter was, however, of poor quality. The local demand for the product was small, and the overseas demand non-existent. The department spent the next two years in trying to improve the quality, and by a course of propaganda and a higher price encouraged the Fulani to produce a cleaner butter. Samples of the improved ghee were sent to Europe and were commented upon favourably by one or two trading firms. In 1932, the first full year of production at Vom, the department produced 9,150 lb.; in 1934, the last year in which

¹ 'Ghee' is a very old dairy product made from butter in the East as well as in Africa, whereas 'clarified butter fat' is the term used for clarified butter made under the direct method, i.e. by boiling the fresh cream from the milk.

the scheme was under their supervision, production had risen to 81,750 lb. In addition, a small factory, opened in July 1934 by the native administration in Kano with locally made equipment, produced 8,000 lb. between July 1934 and March 1935. The supply of butter to these factories was regular and adequate during the wet season, but difficulties were found in obtaining it in sufficient quantity during the dry season. Meanwhile the U.A.C. had become interested and eventually took over production from the department in 1935: the company first opened a factory at Jos, but since the trade was unsuitable for carrying on in the township, it moved to Bukuru about 10 miles away. It subsequently extended its activities to Zaria and Kano and later on to Numan in the Benue. The company buys native butter direct from the Fulani and the main bulk of the purchases are made at out-stations. Each out-station is in charge of an African clerk, who is given a fixed purchase price by the company and allowed a farthing per lb. commission on the butter he buys.¹ He controls a number of native middlemen, chiefly Hausa, who collect the butter in the village markets and bring it to the out-station; these middlemen are also allowed a similar rate of commission. When the business was at its height, the company was buying at 100 different points.

Originally the butter was simply bought at out-stations and sent in to the clarifying centres, but this proved unsatisfactory since there was considerable risk of adulteration by the introduction of other fats and of deterioration in quality before the butter could be treated. Consequently, the company began to semi-clarify the butter in the out-station and then sent it in by lorry to Bukuru, Zaria and Kano for final clarification. The clarified oil, which will keep indefinitely, is exported in bulk to one of the company's factories in England for further processing as the basis of another product. Exports just before the war were some 2,000 tons annually.²

Output depends on rainfall, which limits the areas of pasturage and hence the quantity of butter available, although local supplies were supplemented before the war by a great deal of butter from French territory which was clarified at Kano. It must be remembered that the wetter areas, where good and plentiful pasturage is possible, are useless for cattle raising owing to fly infection.

The government was also 'experimenting in the years immediately preceding the second world war with the production of clarified butter fat by the 'direct method'. This clarified butter fat is of a very fine quality and purity, and being both tasteless and odourless is valuable for cooking purposes. The milk is purchased at depots as in the case of butter for ghee manufacture, but the Veterinary Department has suggested that the development of cream separating units, managed by African middlemen

¹ The price paid in 1939 was 2½d. per lb. for butter at all buying points, no differential for freight from out-stations being deducted.

² In 1941, exports were 2,190 tons with a value of £86,000.

or stock raisers, might be a further practicable and important step in the evolution of this industry.

A high-grade cooking fat for European use as a substitute for imported fats can find a ready market at once; the clarified butter fat is retailed in Jos at 1s. and in Lagos at 1s. 2d. per lb., while such imported fats as Trex are sold at 1s. 6d. The clarified butter fat has the further advantage of being $\frac{1}{3}$ th stronger in butter fat content than the imported compounds. A local market among the Africans might also be developed and the fat used as an alternative to palm-oil in native cooking. It is likely that the growth of this industry will prove the most practicable method of utilising fully the resources of the northern herds and that its extension to other provinces may prove more practicable than the development of fresh butter dairying in new regions. It should form part of the plans for livestock development in purely pastoral districts, such as Bornu province, where there is no outlet for surplus dairy products, but whence a product of this nature, which will keep good indefinitely, could be sent to other parts of the country.

Poultry farming is another important branch of the livestock industry, which the Agricultural Department has done much to foster in the southern provinces. Two of the most serious local diseases have been successfully overcome by means of vaccination, and the time is ripe for native administrations to assist the local farmers in the breeding of improved birds.

But the main sources of production lie in the north, in Kano and Zaria provinces, where the trade in eggs plays an important part. The volume consumed in the locality is not estimated, but some idea of the extent of the trade can be gleaned from the fact that between April 1941 and March 1942, 642 tons, or approximately 5,900,000 eggs, were despatched to the south. The local method of handling is unsatisfactory, and the percentage of those which are bad when they reach their destination is anything up to 50 per cent. During the second world war orders received from military canteens were dealt with by the Agricultural Department, which bought the eggs from the producers, inspecting and grading them at the time of purchase. Higher prices were paid for those which were up to standard, and it is hoped that this scheme will be the forerunner of a new method of organising the trade by means of egg-collecting centres, which will raise the standard of the product.

Hence, through the restrictions resulting from the war of 1939, the Nigerian livestock and dairy industries are being more rapidly developed than in the past, and already show a considerable extension over the pre-war years. They are proving capable of turning out varied products, fats, milk, livestock and meat, capable of competing favourably in price with similar imported goods, and have shown that they can expand to meet the growing demands of the home market and that of neighbouring territories. They will require the advice and direction of the Veterinary De-

partment for many years to come, and will need help also in organising efficient marketing schemes to safeguard both the producer and the standard of the product. But more scientific cattle-raising on the great grazing lands of the Plateau and Bornu provinces, making possible the increased utilisation and yield of arable land by careful manuring, in turn opens up entirely fresh fields for exploration. The growth of subsidiary industries, such as improved local tanning and leather manufacture for the home-market; meat-drying and a meat-canning factory at Kano; improved methods of transport with refrigerating vans; a fuller and healthier diet for the native population with fresh milk and meat regularly supplied; these are some of the possibilities before the northern provinces of the future. Intelligent direction, vision and courage on the part of the British authorities are demanded to turn them into realities.

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