

Poleman, Thomas T.

Working Paper

Survey on Nutritional Concomitants of Urbanization in Selected Countries of Sub-Saharan Africa

Staff Paper, No. SP 73-15

Provided in Cooperation with:

Charles H. Dyson School of Applied Economics and Management, Cornell University

Suggested Citation: Poleman, Thomas T. (1973) : Survey on Nutritional Concomitants of Urbanization in Selected Countries of Sub-Saharan Africa, Staff Paper, No. SP 73-15, Cornell University, Charles H. Dyson School of Applied Economics and Management, Ithaca, NY, <https://doi.org/10.22004/ag.econ.185879>

This Version is available at:

<https://hdl.handle.net/10419/276389>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

SURVEY ON NUTRITIONAL CONCOMITANTS
OF URBANIZATION IN SELECTED COUNTRIES OF
SUB-SAHARAN AFRICA

by

Thomas T. Poleman

July 1973

No. 73-15

NEW YORK STATE COLLEGE OF AGRICULTURE AND LIFE SCIENCES
A STATUTORY COLLEGE OF THE STATE UNIVERSITY
CORNELL UNIVERSITY
ITHACA, NEW YORK 14850

DEPARTMENT OF
AGRICULTURAL ECONOMICS
WARREN HALL

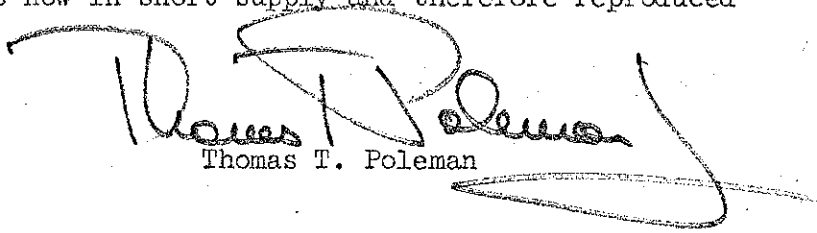
24 July 1973

About 15 years ago the thought occurred to a number of Africanists, Paul Bohannon of Northwestern and W. O. Jones of Stanford being in the fore, that the principal problems of Black Africa were to be found-- and resolved--not in the countryside, but in its towns. More recently this theme has been picked up by such worthy dispensers of funds as AID and the World Bank. Even they now recognize employment generation to be the key problem confronting the third world, and while they have initiated a number of projects to test the feasibility of creating more jobs in agriculture, these typically are being implemented with minimal conviction.

Not the least of the problems arising from rapid urbanization involve food: its production in sufficient quantities by a rural sector by no means modern; its movement to the consuming centers in a timely and efficient manner; its ingestion in adequate amounts by consumers whose meager budgets face myriad new assaults. All are researchable questions best approached through the attachment of numbers, and over the years my students and I have carried out several pilot inquiries as to how this is best done. These include a number of studies still in print:

1. "The Food Economies of Urban Middle Africa: The Case of Ghana," Food Research Institute Studies, Vol. II, no. 2, May 1961.
2. The Nigerian Beef Industry (Cornell International Agricultural Development Bulletin 9, August 1967).
3. The Food Supply of Kampala (Makerere Institute of Social Research, July, 1972).
4. "Urban Food Consumption Patterns in Uganda," in Nutrition and Food in an African Economy (Makerere University, April, 1972).

The general approach followed in these studies was summarized in a paper prepared in 1965 at the request of the Nutrition Division of FAO. This paper is now in short supply and therefore reproduced here.


Thomas T. Poleman

RESTRICTED

Report Submitted to the Nutrition Division, FAO, Rome

(November 1965)

Survey on Nutritional Concomitants of Urbanization

in selected Countries of Sub-Saharan Africa

-by

Consultant: Professor Thomas T. Poleman
Department of Agricultural Economics
Cornell University
Ithaca, New York

INTRODUCTION

This report is submitted pursuant to a one-month consulting assignment to explore the implications for food, agriculture and nutrition of rapid urbanization in selected countries of sub-Saharan Africa. As set forth in my appointment, the terms of reference were:

To determine in depth what pertinent data on particular areas are already available in relation to nutritional status as affected by social, economic and cultural changes which are occurring consequent upon urbanization; and what additional data would be required and could be obtained through which specific kinds of research in order to enhance our understanding of the processes of change observed, or supposed, to be taking place.

I have been given to understand that these terms of reference were intentionally drawn up in most general terms, thereby giving the consultant the greatest possible flexibility.

I interpreted my assignment as falling into three phases: 1) to formulate a thrust of inquiry which might most appropriately be followed by FAO or other bodies should they wish to probe further the implications for nutrition and agriculture of urbanization; 2) to determine for selected African countries the extent to which these avenues of research have been pursued in the past and are likely to be followed in the immediate future; and 3) to attempt to interest appropriate government officials and scholars in the importance of the problem and the great need for expanded investigation.

Regarding the third phase, one can only report that 64 persons in five African countries were interviewed. Their names appear in Annex 2, in the order contacted. Annex 1 contains my itinerary.

The five countries visited during my three weeks in Africa were Ghana, Nigeria, Uganda, Kenya and Ethiopia. Appointments in Ethiopia were restricted to officials of ECA. The other four countries were selected, on the basis of personal research some five or six years ago, as being promising in terms of either the availability of quantitative evidence or of having institutions likely to do future work. Additional work has doubtless since been done in French-speaking countries and the time might be appropriate for further investigations. Comments on the state of past and anticipated research in the countries visited appear in Annex 3.

I

Urbanization in Sub-Saharan Africa

One of the most striking phenomena in the recent history of tropical Africa has been the growth of urban centers. Encouraged by great improvements in communications, enlarged investment, the increasingly commercialized character of productive activity, and a rapid growth in over-all population, many cities here have increased three-fold or more in size since World War II (see Table 1).

This is not to suggest that sub-Saharan Africa is yet to be considered an urbanized region. At mid-century only about five per cent of its population was believed to live in cities with populations in excess of 20,000. Yet it would probably not be too far from the truth to state that, while the population as a whole is increasing at something like 2.0-2.5 per cent annually, these centers are growing on the average at three or four times this rate.

TABLE 1. -- MIDDLE AFRICA: PREWAR AND POSTWAR POPULATION
OF SELECTED CITIES *

(Thousand persons)

City	Country	Prewar ^a	Postwar ^a
Abidjan	Ivory Coast	10 (1931)	180 (1960)
Accra	Ghana	73 (1937)	388 (1960)
Addis-Ababa	Ethiopia	150 (1939)	505 (1964)
Bangui	Central African Republic (Ubangi-Shari)	14 (1937)	111 (1964)
Brazzaville	Congo Republic (Middle Congo)	40 (1937)	134 (1961)
Conakry	Guinea	7 (1931)	112 (1960)
Dakar	Senegal	93 (1936)	375 (1961)
Dar-es-Salaam	Tanzania (Tanganyika)	33 (1931)	129 (1957)
Douala	Cameroon	18 (1931)	187 (1964)
Freetown	Sierra Leone	55 (1931)	128 (1963)
Ibadan	Nigeria	387 (1931)	627 (1963)
Kano	Nigeria	89 (1931)	295 (1963)
Kumasi	Ghana	43 (1937)	218 (1960)
Lagos	Nigeria	126 (1931)	665 (1963)
Leopoldville	Republic of the Congo (Belgian Congo)	36 (1938)	402 (1959)
Monrovia	Liberia	10 (1938)	81 (1962)
Nairobi	Kenya	65 (1931)	315 (1962)
Ouagadougou	Upper Volta	16 (1931)	39 (1961)

* Data for postwar years from United Nations, Dept. Econ. and Soc. Aff., Demographic Yearbook, 1964 (1965), pp. 169-171. Prewar data from Walter Yust, ed., Encyclopedia Britannica World Atlas (prepared by G.D. Hudson, Chicago, 1942), pp. 182-211, except for Abidjan and Conakry which are from B.F. Johnston, The Staple Food Economies of Western Tropical Africa (Stanford, Calif., 1958), p. 5. As most African population estimates are notoriously unreliable, these statistics must be treated with caution.

^a Figures in parentheses are the year of census or estimate.

(The only exception to this generalization that I am aware of is Ibadan; most authorities agree that its population of \pm 600,000 is increasing by only about .5 per cent per annum.) Thus a strong movement to the cities is under way and will no doubt accelerate with time.

Our ignorance of this movement and its implications is profound. Because of the newness of the phenomenon, little research has been specifically oriented toward it. Such is the paucity of evidence, in fact, that we have no clear notion of why Africans move to town. Opinions abound, but facts are notoriously scarce.

Still it is clear that urbanization within the African milieu poses a multitude of problems, not the least of which relates to food. Tropical food farming is still

an extremely primitive operation. Until recently excluded from the assistance programs of most governments, it has changed but slightly with time. Shifting cultivation remains the basis for fertility maintenance and most growers produce little more than that needed to feed their own family. To such a system a growing population of town dwellers presents an enormous challenge. If the needs of an increasing number of nonself-suppliers are to be met (possibly by a reduced number of growers) basic changes in systems of production may have to be introduced, never an easy process. At the same time the means will have to be adapted through which foodstuffs may be stored, preserved, and moved considerable distances at reasonable costs. Moreover, per capita demand may well increase. One of the expected consequences of economic development is a change in dietary patterns. If income levels in the cities rise, a portion of the population should be able to afford foodstuffs in greater quantities and of a more expensive type. Possible consequences are rising prices and privation among the poor.

But all of this is rather in the realm of speculation. Far too little is known about the present character of urban food consumption, about the exact changes in demand that are likely to accompany acculturation and income changes, about the capacity and efficiency of present marketing systems, and about the economic responsiveness of local food growers.

If one may borrow the standard conclusion of an uninspired MS thesis, "further research is required".

II

A Suggested Thrust of Inquiry

Although little research has been directed specifically toward urbanization in Africa and its nutritional and agricultural implications, some scattered work has been done on associated questions. This includes work on the origins of food supply by geographers (cf. 1), on markets and the marketing mechanism by anthropologists (cf. 2, 3, 4), and on the character of urban demand by economists and physicians working with data collected in government-sponsored household budget or nutrition surveys (cf. 5, 6, 7).

But so far as I am aware, only one study (8) has attempted to bring this type of scattered evidence together and to use it as the basis for building up a more complete picture of the food economy and nutritional situation of a particular urban center. For reasons detailed below I would suggest that this interdisciplinary collecting process would be the most rational form for future inquiry to take.

At first glance it might appear that if one wished to examine the nutritional concomitants of urbanization the logical approach would be to follow a group of typical families as they migrated to town, to observe over a period of time their changing feeding habits, and to measure the effects on physical well-being. Further reflection, however, causes this approach to be rejected as impractical. Africans move to town in no set pattern. Sometimes a single member of a household will proceed alone at first, living either by himself or with relatives, sometimes a whole household will move. Or a man may come to town briefly, to return to his home village on frequent occasions. This lack of uniformity coupled with extreme population mobility makes it well nigh impossible to single out the "typical" case or to follow it for an extended period.

Furthermore, such an approach would shed little light on the forces which determine alterations in feeding habits, nor would it lay the foundation for economically feasible remedial action. These considerations must be fundamental to any broad thrust of investigation.

An additional key consideration is that research proposals should fit in reasonably closely with work already in hand. It is far easier and more fruitful to persuade an organization to modify and/or expand what it is already doing than to attempt to have it launch into a totally new and untried area of investigation.

With these considerations in mind, I suggest that four avenues of research be encouraged. These should be built around 1) urban household budget surveys, 2) rural household surveys, 3) marketing-cum-road check surveys, and 4) socio-cultural studies.*

a. Urban Household Budget Surveys

Urban household budget surveys have been and continue to be conducted in a number of African countries. These I need not detail here since the FAO Nutrition Division, Food Consumption and Planning Branch, has compiled what is perhaps the most detailed listing available.

Generally these surveys are conducted by the Government Statistician at the request of the Labor Department to provide a basis for weighting cost-of-living indices. Most are conducted over a short period of time (usually a week or two; at most a month) and confined to households in what is described as the "low-income" range. In an area that is otherwise murky they shed much useful light in even their most primitive form.

But they would be far more instructive if expanded in certain directions, and it is gratifying to record that several African governments are moving in just this direction.

The surveys should, in the first place, be expanded to include at least the middle-income ranges. Cross-section analysis provides today the firmest indicator of the Africa of the future; if major dietary changes are to be anticipated with urbanization and economic growth, they are likely to be reflected already in the feeding patterns of middle-income persons.

Secondly, the surveys should be enlarged to include the collection of quantity data for at least a sub-sample. Thus far most budget surveys have been confined to the collection of values alone, thereby requiring quantities to be imputed and in so doing to expose the result to the limitations of African price data. Value elasticities and quantity elasticities can vary greatly under primitive statistical conditions; what we want is the latter.

Thirdly, it would be desirable for nutritional status surveys to be made of a sub-sample at the same time the household budget surveys are carried on. One is not optimistic about the prospects, however. "Cooperation" and "coordination" are widely used terms in low-income countries; but bureaucratic jealousies have already developed to a fine art, as elsewhere. In addition, expenses are also an important consideration.

Fourthly, it would be instructive if newly-arrived families and their ethnic and socio-economic background could be separated in the sampling process from established ones to point up differences in feeding habits, if any, that seem to hinge on acculturation rather than income. The two may go hand in hand or they may not; we simply do not know.

* In order to facilitate discussion I have summarized these avenues of research in outline form. This outline appears as Annex 4.

Finally, I would make a strong plea for the same household being surveyed during several periods of the year, when - as seems the general case - truly representative samples cannot be drawn. In most of tropical Africa food production is distinctly seasonal, to the end that diet composition and perhaps total caloric intake varies over the year. Again, I am under no illusions regarding the difficulty of this. African families are highly mobile, and it is understandable that those surveys which have been extended over a number of months have sampled different populations each time. But the weaknesses of the resulting data make the more difficult objective the required one.

b. Rural Household Surveys

Rural household surveys are a comparatively new research tool in tropical Africa, but are being carried out currently in a few African countries. Again a detailed listing is contained in the compilation of the FAO Nutrition Division. To the subject of this report these surveys are of great value in that 1) they are the ideal means of obtaining a benchmark of rural food consumption against which urban diets may be compared, and 2) the output and marketing data they contain provide key insights into the organization of peasant food farming, production and marketing behavior, storage losses, and response to price incentives.

It is difficult to generalize regarding the structure of rural surveys in Africa. But typically those carried out during the 1950's were of only a few weeks' duration and relied almost entirely on recall, whereas those in hand today generally cover at least 12 months with constant interviewing and observation.

This last accounts for their limited application thus far. To provide trustworthy data their coverage must extend over at least a year, and this presupposes a large field force. Thus they are both expensive and demanding of Africa's scarcest resource, trained manpower. Nonetheless, because the information they provide is so basic to an understanding of the food economies of African countries, governments should be strongly encouraged not to overlook them.

In addition to a 12-month reference period, rural household surveys should, to be of maximum utility to the present problem, incorporate the following:

- 1) a sub-sample for which quantity data on food consumption is collected during several seasons of the year.
- 2) The broadest income coverage possible.
- 3) Intensive work to supply data on gross output per farm unit as a check on consumption and marketing. Because certain crops are frequently harvested throughout the year in Africa, I am not unaware of the difficulty of this task.

c. Marketing-cum-Road Check Surveys

Neither marketing nor road movement surveys are totally unknown in Africa, but their application has been comparatively limited. However, in that they provide a link between data collected in the urban and rural surveys and also a cross-check on them, their employment cannot be encouraged too strongly. Indeed, it is my belief that such surveys can shed more light on African food economies per outlay of capital and manpower than any other form of data collection.

The typical marketing survey in Africa takes as its point of focus either the individual trader or the market-place. The road-check, on the other hand, centers on the movement of foodstuffs from place to place. The past pattern has been for such surveys to be conducted in isolation. I suggest that by combining them the value of the findings could be multiplied several fold.

Most African countries already have the infrastructure in existence for conducting produce movement surveys. Police check-points are to be found regularly on most major roads and especially on the outskirts of towns and cities. In fact many of them are already engaged in collecting most of the data required: Where do you come from, where are you going, and what produce are you carrying? Admittedly records are generally kept in a most cursory fashion (and rarely summarized) and "dashing" of officials to evade enumeration (and taxation) is rife. But the infrastructure is there and those attempts to make appropriate use of it have proved highly instructive.

Ideally, data collected during a product movement census should have as its starting point a single urban center and as its prime objective determination of from where this center draws its food. As most cities in Africa are fed via a limited number of roads, the number of check points needed is rarely great. If possible, data should be collected on a daily basis for a full 12 months. Thus the findings not only can reveal much on the efficiency of the marketing system and the supply response of producers from one season to the next, but an important check is provided on the composition of diets and their seasonal variations.

The more traditional marketing survey should be viewed as a technique to supplement the data generated in produce movement censuses. Though surveys of middlemen and retailers are of limited value in understanding the total supply mechanism, they can provide a wealth of evidence on specialty and high-value foodstuffs (such as livestock products and commercially processed items). Similarly the market-oriented survey is more a micro- than a macro-oriented research tool. Alone it tells little, but in concert it will pay for itself many times over.

d. Socio-cultural Studies

The three foregoing avenues of investigation have quantification as their prime objective. Those studies which I group under the broad heading of socio-cultural should concentrate on the "why" aspect.

Why do Africans come to town? Are the incentives economic or otherwise? Ten years ago we thought we knew the answer, but not today.

Why the present hierarchy of urban food preferences? To what extent are these influenced by custom, by factors of cost, by the availability of different cooking facilities, by the beginning of female emancipation, by the age/sex composition of the new migrants, or purely by a desire to emulate what are fancied to be one's betters? One can gather as many opinions as interviewees, but few facts.

What are the feeding patterns of urban Africans and how do these differ from those in the countryside? How do urban feeding patterns affect those of rural people? Are modifications in the number and composition of meals imposed by changed employment requirements? Again we have little firm evidence.

And what are the implications of the extended family system on food expenditures? The urban budget surveys provide some clues, but only tempt us. To what extent do newly arrived immigrants attach themselves to established families and what effect does this have on the family who supports them? While perhaps beneficial to the individuals, the system could be disastrous to economic incentives.

These and many more areas cry for exploration by the skilled social scientist.

III

Implementation

In setting forth the contents of several critically needed avenues of research, I have put down what I consider the long-term ideal. I am not unmindful of the fact that, presented with such targets, many would do nothing until the ideal could be achieved. Against this I would argue strongly. The four research thrusts were intentionally chosen as ones on which work is already in hand. Continuation of this research in even its most primitive form will still supply valuable evidence. The art of the possible calls for evolution not revolution.

Similarly I am aware that a course of interdisciplinary research such as I propose is fraught with difficulties. One is astounded anew on each visit to the tropics to discover how little aware are workers of what the few others in their own country have done or are now doing. Partly of course this reflects the rapid turnover in personnel attendant to independence. And partly it reflects the fact that competent men in underdeveloped countries are perpetually overworked. But the key fault, in my estimation, is that despite all the lipservice given it, there is no mechanism in most new governments for research coordination.

Can not FAO and similar organizations serve a truly useful function here, simply by suggesting general guidelines of work and acquainting the participants with who is doing or has done what? Perhaps I am unduly optimistic, but my impression is that a few short-term visits to a number of countries could accomplish wonders. Otherwise we should be prepared for a long spell in the doldrums.

One final thought. I began my career as a specialist on Latin American economic problems. Forces later compelled me into tropical Africa and Asia. Somewhere along the line the light dawned. The problems are basically the same throughout the tropical (underdeveloped, developing, emerging, or whatever the euphemism) world. To be sure there are local differences, but in the main the alternatives and solutions are identical. Certainly one area can profit by the experience of another.

Thus urbanization and its implications for food and agriculture should not be considered purely in the African milieu. For "Africa", read "the tropics".

Citations

1. H.P. White, "Internal Exchange of Staple Foods in the Gold Coast", Economic Geography, April 1956.
2. D.F. McCall, "The Koforidua Market", in P. Bohannan and G. Dalton, eds., Markets in Africa (Evanston, Ill., 1962).
3. A.B. Mukwaya, "The Marketing of Staple Foods in Kampala, Uganda", in Bohannan and Dalton, op. cit.
4. M.G. Smith, The Economy of Hausa Communities of Zaria (London, 1955).
5. H. Kaneda and B.F. Johnston, "Urban Food Expenditure Patterns in Tropical Africa", Food Research Institute Studies, November 1961.
6. Kenya, Min. Fin. and Econ. Planning, The Pattern of Income, Expenditure and Consumption of African Middle Income Workers in Nairobi, July 1963 (1964).
7. Gold Coast, Off. Govt. Stat., 1953 Accra Survey of Household Budgets (Stat. and Econ. Papers No. 2), December 1953.
8. T.T. Poleman, The Food Economies of Urban Middle Africa: The Case of Ghana (Stanford, Calif., 1961).

Annex 1Itinerary

Depart	Ithaca, New York	5:00 pm - 2 October
Arrive	Entebbe-Kampala, Uganda	9:00 am - 4 October
Leave	Entebbe-Kampala, Uganda	10:00 pm - 5 October
Arrive	Nairobi, Kenya	1:00 am - 6 October
Leave	Nairobi, Kenya	12:15 pm - 7 October
Arrive	Addis Ababa, Ethiopia	2:00 pm - 7 October
Leave	Addis Ababa, Ethiopia	12:30 pm - 9 October
Arrive	Accra, Ghana	5:20 pm - 9 October
Leave	Accra, Ghana	8:30 am - 14 October
Arrive	Ibadan, Nigeria	1:00 pm - 14 October
Leave	Ibadan, Nigeria	3:30 pm - 19 October
Arrive	Lagos, Nigeria	6:30 pm - 19 October
Leave	Lagos, Nigeria	10:00 am - 22 October
Arrive	Rome	4:40 pm - 22 October
Leave	Rome	6:45 pm - 2 November

Annex 2Persons ContactedUganda:

- 4 Oct. 1) D.G.R. Belshaw, Senior Lecturer in Agricultural Economics,
Faculty of Agriculture, Makerere University College
- 2) J.S.W. Lutwama, Dean and Professor of Preventive Medicine,
School of Medicine, Makerere University College
- 5 Oct. 3) F. John Bennett, Senior Lecturer in Preventive Medicine,
School of Medicine, Makerere University College
- 4) Miss I.H.E. Rutishauser, Infant Malnutrition Unit,
School of Medicine, Makerere University College
- 5) W. Newlyn, Director for Economics,
East African Institute for Social Research
- 6) J.H. Cleave, Senior Agricultural Economist,
Ministry of Agriculture
- 7) Miss M. Findlay, Statistician, Department of Statistics

Kenya

- 6 Oct. 1) D. Etherington, Lecturer in Agricultural Economics,
University College, Nairobi
- 2) B.T. Chidzero, UNTAB Representative for East Africa
- 3) C.S. Gray, Economic Advisor to the Kenya Government,
Ministry for Economic Planning and Development
- 4) S.S. Heyer, Senior Economist and Statistician,
Treasury and Ministry of Agriculture
- 5) B. Massell, Director, Institute for Development Research,
University College, Nairobi

Ethiopia

- 7 Oct. 1) J.H. Dalton, Acting Head,
ECA/FAO Joint Agriculture Division, ECA
- 2) St.G. Cooper, FAO Agriculture and Administrative
Services Officer, ECA/FAO Joint Agriculture Division, ECA
- 3) S. Bethke, Agricultural Marketing Officer,
ECA/FAO Joint Agriculture Division, ECA
- 4) K.K. Apeadu, Head, Research Division, ECA
- 5) E. Burke, Social Affairs Officer, Research Division, ECA

Ethiopia (continued)

- 8 Oct.
- 6) C.M.H. Morojela,
FAO Regional Statistician for Africa, ECA
 - 7) W.L. Booker, Acting Head, Statistics Division, ECA
 - 8) J. Mensah, Head,
Division for Economic Cooperation, ECA
 - 9) Dr. H. Russell, WHO Liaison Officer to ECA

Ghana:

- 11 Oct.
- 1) Dr. Fred Said, Regional Nutrition Officer for Africa,
FAO Regional Office for Africa
 - 2) Dr. P.L.H. Davey, Joint Secretary,
FAO/WHO/CCTA Food and Nutrition Commission
 - 3) E.W. Omaboe, Government Statistician,
Central Bureau of Statistics
 - 4) J. van der Meulen, Regional Marketing Officer for Africa,
FAO Regional Office for Africa
- 12 Oct.
- 5) Miss E. Hookham, Regional Home Economics Officer,
FAO Regional Office for Africa
 - 6) J.K.A. Darfoor, Principal Assistant Secretary,
Ministry of Agriculture
 - 7) S.Y. Atsu, Senior Agricultural Economist,
Economics and Statistical Division, Ministry of Agriculture
 - 8) H.P. Kallmeyer, Agricultural Statistician,
Economics and Statistical Division, Ministry of Agriculture
 - 9) E. Abrahams, Principal Agricultural Officer,
Information and Publications Unit, Ministry of Agriculture
 - 10) J. Anim-Appiah, Senior Agricultural Economist,
Economics and Statistical Division, Ministry of Agriculture
 - 11) R.M. Brandenburg, Marketing Advisor,
Economics and Statistical Division, Ministry of Agriculture
- 13 Oct.
- 12) C.F. Rauba, Project Manager,
Food Research and Development Unit (UN), P.O. Box 1628, Accra
 - 13) Col. John Wallis, Technical Advisor to Chief Transport
Officer, State Transport Corporation, P.O. Box 384, Accra
 - 14) E.J. Prah, Government Transport Officer,
State Transport Corporation

Ghana (continued)

- 13 Oct. 15) Dr. Woot-Tsuen Wu Leung, NIH, Washington
(on assignment to FAO to prepare African food
composition tables)
- 14 Oct. 16) Chief Akin Deko, FAO Representative for Africa,
FAO Regional Office for Africa

Nigeria - Ibadan:

- 15 Oct. 1) Abiodun Ijose, Administrative Secretary,
Nigerian Institute for Social and Economic Research,
University of Ibadan
- 2) Dr. I.S. Dema, Senior Lecturer,
Institute of Child Health, University of Ibadan
- 3) A.L. Nabogunje, Senior Lecturer,
Dept. of Geography and NISER, University of Ibadan
- 4) V.A. Oyenuga, Head,
Department of Agricultural Chemistry and Soils,
Faculty of Agriculture, University of Ibadan
- 5) Miss M.A. Morton, Home Economist,
FAO/UNICEF Area Office, Lagos
- 6) Dr. W.R. Ackroyd, Director,
Department of Human Nutrition,
London School of Hygiene and Tropical Medicine
- 18 Oct. 7) H.A. Oluwasanmi, Head,
Department of Agricultural Economics,
Faculty of Agriculture, University of Ibadan
- 8) J.R. Bookmeyer, Representative,
The Rockefeller Foundation, University of Ibadan
- 9) C. Okonjo, Senior Lecturer and Director,
Population Studies Center, Faculty of Social Sciences
University of Ibadan
- 10) A.O. Lucas, Senior Lecturer and Head,
Department of Preventive and Social Medicine,
Faculty of Medicine, University of Ibadan
- 19 Oct. 11) T.S.B. Aribisala, Permanent Secretary,
Ministry of Agriculture and Natural Resources, Western
Region
- 12) E.O. Ojurongbe, Assistant Chief Agricultural Extension
Services Officer, Ministry of Agriculture and Natural
Resources, Western Region

Nigeria - Ibadan (continued):

Annex 2

- 19 Oct. (contd.)
- 13) K.W. Gall, Former UN Associate Expert, Now Independent Scholar, Ministry of Agriculture and Natural Resources (permanent address in Germany)
 - 14) J.M. Fenley, Chief Officer for Agriculture, UNSAID Mission, Western Region, Nigeria, Ibadan
 - 15) O. Bassir, Professor and Head, Department of Biochemistry, Faculty of Medicine, University of Ibadan
 - 16) C.W.L. Bevan, Professor and Head, Department of Chemistry, Faculty of Science, University of Ibadan

Nigeria - Lagos:

- 20 Oct.
- 17) O. Svennevik, Resident Representative a.i. UN Technical Assistance Board
 - 18) B. Ramamurti, Chief Statistician, Federal Office of Statistics
 - 19) S.O. Adeyinka, Assistant Chief Statistician, Rural Economic Survey Division, Federal Office of Statistics
 - 20) H.A.M. Clarke, Area Representative for Nigeria and Ghana, UNICEF
 - 21) V.K. Kyaruzi, Director for Africa, UNICEF
 - 22) W.R.F. Collis, Professor and Head, Institute of Child Health and Department of Pediatrics, Faculty of Medicine, University of Lagos
- 21 Oct.
- 23) Dr. van der Hoff, WHO Representative, Ministry of Health
 - 24) Dr. J. McFie, Specialist, Nutrition Service, Ministry of Health
 - 25) Mrs. V.A. Shopido, Urban Consumer Survey Analysis, Federal Office of Statistics
 - 26) G.E.O. Okiy, Permanent Secretary, Ministry of Natural Resources and Research
 - 27) A.M. Said, UN Research/Welfare Advisor, Department of Social Welfare, Lagos City Council
-

Annex 3Country Comments

The following comments on the state of past, present, and anticipated research in Ghana, Nigeria, Uganda, and Kenya are organized to the extent possible to conform with the general thrusts of research recommended in the body of this report.

Three weeks is hardly a sufficient period in which to explore in detail the work being done in four countries, especially when a variety of evidence bears on the topic in question. Nonetheless, I hope that what follows is neither couched in generalities that are unduly vague nor contains specifics that are precisely incorrect.

a. Ghana

Once by far the wealthiest country in tropical Africa in terms of output and trained manpower per capita, Ghana was in an enviable position on receiving independence in 1957. During the final years of the colonial administration a number of superior and ground-breaking surveys were conducted in Ghana. The post-independence period, however, witnessed a deterioration. The University at Legon experienced an almost complete turnover in staff during a three-year period. Many experienced government technicians found employment elsewhere, but some useful work continued.

Ghana was the site of pioneering urban and rural household surveys in Africa, as the following list testifies:

Urban (published):

Accra - 1953 (1)
 Akuse - 1954 (2)
 Kumasi - 1955 (3)
 Sekondi-Takoradi - 1955 (4)

Rural (published):

Southeast Akim Abuakwa (1952/53) (5)
 Cocoa producers in the Oda-Swedru-Asamankese area (1955/56) (6)
 Cocoa producers in Ashanti (1956/57) (7)

All these surveys were conducted by the Government Statistician, and achieved a remarkably high level of refinement. Thus both the Kumasi and Sekondi-Takoradi surveys supplied quantity data on food purchases for a sub-sample. Coverage was for a period of 30 days.

During August-November 1961 (12 weeks) and February-March 1962 (six weeks) a "National Household Budget Survey" covering several thousand families, both urban and rural, was carried out by the Government Statistician. A wealth of detail, including quantity data on foodstuffs for the entire sample, was gathered. It has never been analysed; unless some private organization comes to the rescue it probably never will be.

The Government Statistician hopes to carry out a similar national survey beginning in May 1967. Scheduled to last a full year, it is programmed to cover about 3,000 households. Quantity data on foodstuffs are to be collected and it is hoped that a nutritional study can be conducted of a sub-sample.

The published urban surveys all relate to low-income families. The national survey of 1961/62 included the middle-income range as well. The only upper-income survey of which I am aware was conducted in Accra for 15 days in 1962 by a team from Edinburgh University (8).

A few nutritional surveys have been completed in Ghana, the most notable being that done for the Food and Nutrition Board by P.L.P. Davey. From each of 12 different localities six families were selected for detailed study. They were visited every other month for a full year, at which time actual food consumption was measured for a period of five days. Dr. Davey has summarized his findings in Volume VII, Number 1, of The Economic Bulletin of Ghana, (9) and in a more detailed unpublished manuscript. An attempt was made to correlate the findings with measurements of physical well-being. The study represents an impressive first step.

Ghana has also pioneered works in the marketing area. In 1957/58 a produce-movement survey of major proportions was conducted by the Government Statistician. It has never been officially analysed or published; indeed it saw the light of day first in my paper on Ghana's urban food economy.

More recently, a one-month survey was conducted in July-August 1964 by the Government Transport Department. Twenty-one check points were involved, centered on Accra, Kumasi, and Sekondi-Takoradi. Publication is scheduled for December 1965. This survey was regarded as a pilot venture (the persons in charge were unaware of the 1957/58 produce-movement census); future plans are indefinite, but it is hoped that surveys of longer duration will be made in due course.

Regarding traditional marketing surveys, a number have been made in Ghana. Probably the best is McCall's study of the Koforidua market which appeared in Bohannan's Markets in Africa (10). Others include La Anyane's "Aweso - A Manya Krobo Huza" (11) and parts of Acquah's Accra Survey (12).

Sociological investigation has a long history in Ghana, Beckett's study of Akokcasso being justly famous, as is Busia's Report on a Social Survey of Sekondi-Takoradi. Much material of this type never finds its way into print. Thus we are still awaiting Peter Ady's "Ashanti Survey", although the final field work took place almost 20 years ago.

Because of the changes at the University at Legon, the outlook for quality sociological work from Ghana is unclear.

b. Nigeria

The situation in Nigeria looks promising. This judgement, however, must be a qualified one. Much is afoot, but little has been published. Until it is, it could be misleading to assume that research which sounds enterprising and well-planned will in reality turn out to be so.

I visited only Lagos and Ibadan in Nigeria. Thus my comments on this vast country must be confined to what is being directed from these two centers.

The current situation on urban household surveys in Nigeria is as follows:

Survey Town	Year	Status	
Lagos *	1953/54	Results published	(14)
Lagos	1959/60	Results published	(13)
Enugu *	1953/54	Results published	(14)
Enugu	1961/62	Draft report not yet approved for publication	
Ibadan *	1954/55	Results published	(14)
Ibadan	1961/62	Draft report not yet approved for publication	
Kaduna/Zaria *	1955/56	Results published	(15)
Kaduna	1962/63	Draft report in progress	
Calabar *	1956	Results not published	
Aba/Port Harcourt *	1957	Results not published	
Aba/Port Harcourt **	1965/66	Field Work in progress	
Benin/Warri/Sapele	1956	Results not published	
Kano *	1958/59	Results not published	
Ilorin *	1957/58	Results not published	
Onitsha	1963/64	Analysis in progress	
Oshogbo/Ife/Ilesha	1963/64	Analysis in progress	
Akure/Ondo/Owo **	1964/65	Field Work in progress	
Sokoto/Gusau **	1965/66	Field Work in progress	

The foregoing represents the work of the Federal Office of Statistics, and is revealing in two respects. In the first place, it points to the greatly accelerated program of investigation that is now in hand. And secondly, it illustrates the wide gap that exists between surveys completed and those actually analysed and published. The most recent survey published is the 1959/60 Lagos inquiry (13).

Those surveys marked with an asterisk relate to low-income households only. Beginning with the 1959/60 Lagos survey both the low and middle income (self-employed as well as wage earner) ranges were sampled. The three surveys now in progress (double asterisk) include a sub-sample for which quantity data on food consumption is being collected. The periods covered by these surveys have varied considerably. In the past the caliber of the surveys has been rather below that attained in Ghana.

The Federal Office of Statistics has in hand an ambitious program of rural household surveys. Begun in 1962/63, when 92 units (1,840 households) were sampled, it was expanded the following year to 191 units (3,820 households), and in 1964/65 reached 204 units (4,080 households). Two or three enumerators are assigned to each unit (village or group of villages) for an entire crop year. These assemble a vast amount of data on farm organization, production, marketing and home consumption. Food con-

sumption is determined by weighing during six sample weeks over the year.

A field staff of 500 is engaged in this task and it is anticipated that it will continue indefinitely. The plan is for half of the 204 units to be surveyed a second year and for 102 new units to be added annually.

At a distance this program seems admirably planned: certainly the instruction books provided the enumerators are models of their kind. One has certain reservations, however. The field staff is not highly trained; indeed, to encourage low turnover, persons with rather limited educational qualifications were intentionally recruited. And thus far no analysis of consequence has been attempted of the findings, despite the fact that the surveys are now in their third year. I am reliably advised that data for only one unit for one year has been summarized and tested for internal consistency.

One explanation for the latter situation is doubtless the current debate over the size and distribution of Nigeria's population. Non-technical considerations have produced census estimates that are probably inaccurate. For the Government Statistician to publish micro evidence suggesting the direction and probably magnitude of error would not be prudent.

In the more specifically nutritional area, the pioneering rural surveys of B.M. Nicol need no introduction to FAO (16-22). Unfortunately, it is difficult to determine the applicability of Dr. Nicol's findings. Income data were not collected. But then we know next to nothing about income distribution among Nigerian peasants.

Rather more comprehensive in scope, but much more limited in area coverage, is the work of the Institute of Child Health of the University of Ibadan. Conducted chiefly by W.R.F. Collis and J. Dema, it focused on a number of Villages in the Ilesha area of the Western Region. Publications include "The Nutritional Assessment of Peasant Farming in Nigeria" in Volume 2 of Proceedings of the Agricultural Society of Nigeria, and the two papers published in 1962 "On the Ecology of Child Health and Nutrition in Nigerian Villages" (23, 24, 25). This work continues now under the direction of Dr. Dema, who hopes to expand it to include comparisons with children in Ibadan.

Dr. Collis, now Head of the new Institute of Child Health in Lagos, is continuing his work in an urban environment. Of particular interest are the findings of a survey now being written up by one of his assistants, Dr. N. Rea. It covered 227 families with greatly differing income levels in Lagos and attempted to relate over a period of 2 years the physical growth rates and nutritional status of 400 children under five years of age to the economic and educational levels of their parents. This study when completed will be highly revealing. It is suggested that close contact be maintained with Dr. Collis.

Also working in the nutritional area in Lagos is J. McFie, Nutritional Advisor to the Federal Ministry of Health. Dr. McFie's work is hampered by extreme limitations of budget and staff. Nonetheless he has managed to conduct several small nutritional surveys in Lagos, mostly of seven days duration. These studies are of particular value in that an attempt was made to relate feeding habits to ethnic origin and age to quality of diet. See Nigeria, Ministry of Health, Nutrition Service, Nutritional Surveys, 1964 (26).

Regarding marketing studies, I am advised that Alan Hay of the Department of Geography, Cambridge, is in the process of writing up a study of the supply of food-stuffs moving into the major cities of the Western Region. No particulars are available. He worked out of the University of Ibadan.

K.W. Gall, formerly a UN Associate Expert working with the Western Region Department of Agriculture and Natural Resources, has completed a similar investigation focused on Ibadan. His approach was to interview 600 wholesalers in Ibadan and to carry out a one-month survey of 60 consuming families as a cross check. Dr. Gall's work is scheduled for publication in Munich early in 1966. He seemed a most knowledgeable person: if his study proves a success, it may open up an interesting new avenue of research. His address is:

11A Habsburgerstrasse
1 Berlin 30
Germany

Further work in the marketing area is planned by the "Consortium for the Study of Nigerian Rural Development", financed by USAID and composed of Wisconsin Michigan State, Kansas State and Colorado State Universities. Not all of these institutions have extensive African experience. Still if good staff is recruited worthwhile results may be forthcoming. Glen L. Johnson of Michigan State is directing the effort.

In the more traditional area of marketing research, M.C. Smith's The Economy of Hausa Communities of Zaria is unlikely to be surpassed in the immediate future (27).

Sociological research (as distinct from purely anthropological enquiry) does not have a long history in Nigeria. But there exists now at the University of Ibadan a Nigerian Institute of Social and Economic Research, financed by Federal funds and patterned after the more famous East African Institute of Social Research in Uganda. Among its research plans are studies of rural-urban migration, the marketing of staple agriculture products, and an economic survey of the Nigerian beef industry. H.M.A. Onitri is Director of NISER and a keen, energetic person. It is my impression that NISER now emphasizes economic work, but intends to expand into the sociological area in due course.

NISER is fortunate to be situated on the campus of the University of Ibadan, which together with Makerere in Uganda is in the forefront of university level training in English-speaking tropical Africa. Within two years this educational complex will be strengthened by the establishment of the Ford- and Rockefeller- financed Institute of Tropical Agriculture. If the pattern of the International Rice Research Institute in the Philippines is followed, the Institute should attract outstanding scholars from all over the world. It is difficult not to feel optimistic about the caliber of the future output of such a complex.

c. Uganda

Along with Ghana, Uganda pioneered urban consumption survey work in Africa. Work continues, but analysis and publication are hampered by severe personnel limitations. A list of published surveys follows:

Kampala - Sept. 1950 (28)
Kampala - Aug.-Sept. 1951 (29)
Kampala - Sept. 1952 (30)
Kampala - Aug. - Sept. 1953 (31)
Kampala - Jan. - Feb. 1957 (32)
Jinja - Nov. - Dec. 1951 (33)
Jinja - Nov. 1952 (34)
Mbale - Feb. 1958 (35)
Fort Portal - Feb. 1960 (36)
Gulu - 1961 (37)

All of the foregoing relate to "unskilled" (i.e., low income) households. Quantity data on food consumption were not collected, but local price data were obtained, thereby permitting quantities to be imputed with reasonable accuracy. The surveys for Kampala include a breakdown by ethnic origin and reveal sharp differences in food consumption patterns.

The following surveys are in the process of analysis:

Kampala - Feb. 1964 (unskilled)
Jinja - June 1965 (unskilled)

In addition, a survey of public servants (i.e., the higher income range) was conducted in Kampala in 1963 and will be published in due course. A similar survey in Jinja was terminated before completion.

The only rural survey conducted by the Government Statistician relates to coffee farmers in Buganda in 1962. It has yet to be analysed.

The Government Statistician is hampered in its survey work not only by a shortage of skilled statistical analysts; in addition it has no permanent field staff. Personnel must be hired and specially trained prior to each inquiry.

Apart from the work of Dr. Gongora and Dr. McFie in the mid-1950's, (37a), (37b) I am not aware of any specific nutritional surveys that have been made in Uganda. The Infant Malnutrition Unit of the Makerere Medical School attempted a survey of newly-arrived persons in Kampala in 1961, but it was abandoned because of political difficulties and the impossibility of keeping up with the highly mobile subjects. Miss I.H.E. Rutishauser was in charge of this scheme.

In the marketing area, about the only study on Uganda is Mukwaya's analysis of Kampala's matoke supply. It appears in Markets in Africa (38). The Agricultural Economics Division of the Makerere Department of Agriculture has several projects in the planning stage, including one on the marketing of staple foods. This Division is headed by an exceptionally able man, D.G.R. Belshaw; if work on marketing in East Africa is to be accomplished in the near future, it is likely to be under his direction.

The East African Institute of Social Research at Makerere is justly famous for its work in the sociological field, including two studies (one on Kampala, the other on Jinja) which explore in detail the problems of Africans who migrate to town. These studies were done in the early 1950's (39, 40). Since then, the Institute has expanded into a number of other areas of investigation. It is likely that its work will focus more and more on Uganda, as similar institutes take shape in Kenya and Tanzania.

d. Kenya

Kenya, both in terms of past inquiries and likely immediate research, does not seem promising at present.

Three urban consumption surveys have been undertaken and published for Kenya:

Nairobi - Oct. - Nov. 1953 (41)
Nairobi - 1957/58 (42)
Nairobi - July 1963 (43)

The first two covered low-income households, while the third related to middle-income workers and included quantity data on food consumption.

The Ministry of Finance and Economic Planning has no definite plans for future inquiries; it is dependent entirely on the Ministry of Labor for funds for this purpose. It is thought, however, that a new survey of low-income workers may be made in the next year or so.

The first rural survey to be embarked on in Kenya (under UN Special Fund auspices) has recently been completed. Covering the Central Province, this broadly conceived socio-economic inquiry covered 1,080 households. Quantity data on food consumption was collected for four 14-day periods throughout the year.

This survey illustrates some of the difficulties of field research in Africa. Enumerators apparently were inadequately trained and supervised, and no checks for internal consistency were applied during the period of data collection. Preliminary analysis by the Institute for Development Research of the University College, Nairobi, indicates that data from only two or three hundred of the households are usable for estimating income elasticities.

There is at present a WHO Nutrition Project under way in Kenya. It relates to rural areas. All personnel were in the field at the time of my visit.

If work on agricultural marketing is to be done in Kenya, the vehicle is likely to be the embryonic Institute for Development Research. Modest studies on milk and maize marketing are now in hand, and a study of staple food marketing may be begun in 1966.

Sociological work really does not yet exist in Kenya. With the East African Institute of Social Research now tending to emphasize Uganda, the Institute for Development Research is again the logical vehicle, but the Institute is experiencing more than its share of growing pains.

Citations

- 1 Gold Coast, Off. Govt. Stat., 1953 Accra Survey of Household Budgets (Stat. and Econ. Papers No. 2), December 1953.
- 2 Gold Coast, Off. Govt. Stat., 1954 Akuse Survey of Household Budgets (Stat. and Econ. Papers No. 3), 1955.
- 3 Gold Coast, Off. Govt. Stat., Kumasi Survey of Population and Household Budgets, 1955 (Stat. and Econ. Papers No. 5), March 1956.
- 4 Gold Coast, Off. Govt. Stat., Sekondi-Takoradi Survey of Population and Household Budgets, 1955 (Stat. and Econ. Papers No. 4), March 1956.
- 5 Gold Coast, Off. Govt. Stat., S.E. Akim Abusakwa Agricultural Survey, 1952/53 (Stat. and Econ. Papers No. 1), September 1953.
- 6 Ghana, Off. Govt. Stat., Survey of Population and Budgets of Cocoa Producing Families in the Oda Swedru-Assamankese Area, 1955/56 (Stat. and Econ. Papers No. 6), July 1958.
- 7 Ghana, Off. Govt. Stat., Survey of Cocoa Producing Families in Ashanti, 1956/57 (Stat. and Econ. Papers No. 7), 1958

- 8 Edinburgh University, "Survey of Food Expenditure by Middle Income Households in Accra, 1962," (Ghana Study Paper No. 1), December 1962.
- 9 P.L.P. Davey, "Household Budgets in Rural Areas," The Economic Bulletin of Ghana, Vol. VII, No. 1, 1963.
- 10 D.F. McCall, "The Koforidua Market," in F. Bohannan and G. Dalton, eds., Markets in Africa (Evanston, Ill., 1962).
- 11 S. La Anyane, "Aweso - A Many Krobo Huza" (Ghana, Dept. Agr., mimeo., January 1958).
- 12 Ioné Acquah, Accra Survey (London, 1958).
- 13 Nigeria, Fed. Off. of Stat., "Report on Enquiries into the Income and Expenditure Patterns of Lower and Middle Income Wage-Earner Households in Lagos, "Urban Consumer Surveys in Nigeria, 1959/60 (1963).
- 14 Nigeria, Fed. Dept. Stat., Urban Consumer Surveys in Nigeria - Lagos, Ibadan and Enugu, 1953-55 (1957).
- 15 Nigeria, Fed. Dept. Stat., Urban Consumer Surveys in Nigeria - Kaduna and Zaria, 1955/56 (1959).
- 16 B.M. Nicol, "Protein Requirements of Nigerian Peasant Farmers," Brit. J. Nutr., Vol. 13, 1959.
- 17 B.M. Nicol, "The Caloric Requirements of Nigerian Peasant Farmers," Brit. J. Nutr., Vol. 13, No. 3, 1959.
- 18 B.M. Nicol, "The Nutrition of Nigerian Children with Particular Reference to their Energy Req." Brit. J. Nutr., Vol. 19, No. 4, 1956.
- 19 B.M. Nicol, "Protein in the Diet of the Isoko Tribe of the Niger Delta," Proc. Nutr. Soc., Vol. 12, 1953.
- 20 B.M. Nicol, "Tribal Nutrition and Health in Nigeria: A Comparative Clinical Study of Primitive and Urban Nutrition," Am. J. Clin. Nutr., Vol. 1, No. 5, 1953.
- 21 B.M. Nicol, "The Nutrition of Nigerian Peasants, with Special Reference to Effects of Deficiencies of Vit. B. Complex, Vit. A and Animal Protein," Brit. J. Nutr., Vol. 6, No. 1, 1952.
- 22 B.M. Nicol, "Nutrition of Nigerian Peasant Farmers, with Special Reference to the Effects of Vit. A and Riboflavin Deficiency," Brit. J. Nutr., Vol. 3, No. 1, 1949.
- 23 I.S. Dema, "The Nutritional Assessment of Peasant Farming in Nigeria," Proceedings of the Agricultural Society of Nigeria, Vol. 2, 1963.
- 24 W.R.F. Collis, J. Dema, and A. Omololu, "On the Ecology of Child Health and Nutrition in Nigerian Villages, I. Environment, Population and Resources," Trop. geogr. Med., Vol. 14, 1962.
- 25 W.R.F. Collis, J. Dema, and A. Omololu, "On the Ecology of Child Health and Nutrition in Nigerian Villages, II. Dietary and Medical Surveys," Trop. geogr. Med., Vol. 14, 1962.

- 26 J. McFie, Nutritional Surveys, 1964 (Nigeria, Ministry of Health, Nutrition Service, mimeo.).
- 27 M.G. Smith, The Economy of Hausa Communities of Zaria (London, 1955).
- 28 Ea. Af. Stat. Dept., Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Labourers in Kampala, September 1950 (1951).
- 29 Ea. Af. Stat. Dept. Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Labourers in Kampala, September 1951 (1952).
- 30 Ea. Af. Stat. Dept. Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Labourers in Kampala, September 1952 (1953).
- 31 Ea. Af. Stat. Dept., Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Labourers in Kampala, September 1953 (1954).
- 32 Ea. Af. Stat. Dept., Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Labourers in Kampala, February 1957 (1957).
- 33 Ea. Af. Stat. Dept., Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Labourers in Jinja, November 1951 (1952).
- 34 Ea. Af. Stat. Dept., Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Labourers in Jinja, November 1952 (1953).
- 35 Ea. Af. Stat. Dept., Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Workers in Mbale, February 1958 (1958).
- 36 Ea. Af. Stat. Dept., Uganda Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Workers in Fort Portal, February 1960 (1960).
- 37 Uganda, Min. of Econ. Dev., Stat. Branch, The Patterns of Income, Expenditure and Consumption of African Unskilled Workers in Gulu, 1961 (1961).
- 37a J. Gongora and T. Norris, "Nutrition Survey in Uganda - Summary of the General Report of the WHO Nutrition Team" (WHO Regional Office for Africa, 30 September 1958, mimeo.).
- 37b J. McFie, "Nutrition Surveys: A Comparison of the Health of six Villages Consuming Different Types of Food," (An Interim Report of the Standing Advisory Committee on Nutrition 1957, mimeo.).
- 38 A.B. Mukwaya, "The Marketing of Staple Foods in Kampala, Uganda," in P. Bohannan and G. Dalton, eds., Markets in Africa (Evanston, Ill., 1962).
- 39 Cyril Sofer and Rhona Sofer, Jinja Transformed: A Social Survey of a Multi-Racial Township (London, 1955).
- 40 Aidan W. Southall and Peter C.W. Gutkind, Townsmen in the Making: Kampala and its Suburbs (London, 1955).
- 41 Ea. Af. Stat. Dept. Kenya Unit, The Patterns of Income, Expenditure and Consumption of Lower-Paid Africans in Nairobi, 1953 (1954).

- 42 Ea. Af. Stat. Dept., Kenya Unit, The Patterns of Income, Expenditure and Consumption of Africans in Nairobi, 1957/58 (1959).
- 43 Kenya, Min. of Fin. and Econ. Planning, The Patterns of Income, Expenditure and Consumption of African Middle Income Workers in Nairobi, July 1963 (1964).

Annex 4Implications for Food, Agriculture and Nutrition
of Rapid Urbanization in the TropicsSome Suggested Avenues of Inquiry

1. Urban Household Budget Surveys. - Now largely limited to low-income families and conducted to obtain weights for cost-of-living indices.
 - a) Suggest broader income coverage, at least to include middle-income range.
 - b) Collection of quantity data for a sub-sample is needed.
 - c) Would be desirable if conducted in association with nutritional survey, but this is difficult.
 - d) Also desirable if newly-arrived families were separated from established households, but this again is not easy.
 - e) Same households should be surveyed during several different periods of the year; again difficult.

2. Rural Household Surveys. Still a relatively new technique in Africa, but work being done in several countries.
 - a) Coverage throughout the year essential, but expensive.
 - b) Quantity data on food consumption required for several different seasons.
 - c) Intensive work required during harvest periods to provide data on gross output (crop-cutting).
 - d) Annual data (recall) on marketing and consumption to shed light on incentives and storage losses.

3. Marketing-cum-road check surveys. Not a new technique, but so far little applied to Africa. Provides a link between and cross check on data provided through 1 and 2.
 - a) Suggest focusing on one urban center and its supply area per country.
 - b) Daily coverage throughout a full year essential. Despite length of survey, it is relatively cheap and efficient. In association with price data, should tell us something about marketing efficiency and margins; probably cheapest way of ascertaining seasonal changes in diets.

4. Socio-cultural studies. Vaguely titled because I claim no familiarity with past work (if any) or methodological techniques and alternatives. Yet in one way or another we need to know more about:

Annex 4

- a) Why Africans come to town. Are the incentives economic or otherwise?
 - b) The hierarchy of food preferences. Are these dictated by economic reasons, physical ones (cooking facilities), or by purely subjective biases (keeping up with the Joneses)?
 - c) The implications of the extended family system on food expenditures. How far do newly arrived immigrants attach themselves to an established family and what effect does it have on the family who support them?
 - d) Implications of past food habits on urban demand. How far and for how long do people from different agricultural areas create a demand for foods from these areas?
-

Thus I suggest a broad thrust of coordinated interdisciplinary inquiry, built to the extent possible on established lines of research. Our ignorance of the nutritional concomitants of urbanization in the tropics is profound. One would hope that in the process of learning, the avenues of research followed would be designed also to tell us why and to lay the foundation for economically feasible remedial action.