



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

By

J. J. Oloya and T. T. Poleman

February 1973

No. 73-3

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

23 February 1973

During the year (1967/68) I spent in Uganda through the courtesy of the Rockefeller Foundation a number of papers were prepared, some of which are only now being published. A case in point follows. It appears as Chapter 9 in the volume Nutrition and Food in an African Economy, edited by V. F. Amann, D. G. R. Belshaw, and J. P. Stanfield, and published by Makerere University in April 1972. It apparently caught a slow boat; it reached here only this month. Since circulation in this country will doubtless be limited, I am circulating it as a Staff Paper.

The paper was originally prepared for the Makerere/UNICEF/WHO Symposium on Applied Nutrition and Food Supply Policies in Uganda, held in July 1967. It is largely the work of Professor Oloya. If memory serves, I started it, but was hospitalized, and thereafter provided only the vaguest sort of guidance. This would be confirmed by the style, which would seem more Welsh than American.

Also published last year was the write-up of the 1967/68 Kampala Market Survey referred to toward the end of the paper. It appears as: J. J. Oloya and T. T. Poleman, The Food Supply of Kampala: A Study in the Marketing of Basic Foodstuffs in an African Metropolitan Area (Makerere University Printery). Again, distribution in this country will be limited, and it is rather too long to reproduce. I have a few copies, however, and would be glad to honor requests for them.

  
Thomas T. Poleman

## URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

J.J. Oloya and T.T. Poleman\*

### INTRODUCTION

Although urban population statistics in Uganda are inadequate and not very reliable, it seems plausible to deduce on a *priori* grounds that considerable population increases have occurred in cities like Kampala and Jinja which have also witnessed accompanying industrial development, albeit on a limited scale. This phenomenon of growing urbanisation is, in fact, characteristic of most cities in tropical Africa as will be seen from the following table which illustrates the population growth rates of selected cities during the period 1948 to 1969.

Table 9:I POPULATION GROWTH IN A FEW SELECTED URBAN CENTRES  
(towns) DURING THE POST-WAR PERIOD

Urban Centre	P	Q	Annual Growth
Jinja	8,410 (1948)*	47,298 (1969)	8.6%
Mbale	3,709 (1948)*	23,539 (1969)	9.1%
Kampala	123,332 (1959)	331,889 (1969)	10.4%
Dar es Salaam	62,227 (1955)	272,515	12.9%
Nairobi	75,227 (1955)	342,764	13.3%
Accra	135,926 (1955)	337,828 (1960)	5.9%
Lagos	267,407 (1955)	665,246 (1965)	5.9%
Abidjan	180,000 (1960)	246,700 (1965)	5.4%

Source: Uganda Statistics Division, *Uganda Census 1948* and *Uganda Census 1969*.

\* Dr. J.J. Oloya is Professor of Agricultural Economics, Department of Rural Economy and Extension, Makerere University, and Dr. T.T. Poleman is Associate Professor of Agricultural Economics at Cornell University, New York State.

## NUTRITION and FOOD in an AFRICAN ECONOMY

The change in total numbers of urban people was large and the annual growth rate exceeds the average population growth rate. It should be noted, however, that most of these population statistics are estimates whose reliability is uncertain. In the case of Jinja, where the population is shown to have increased by more than 500 per cent the town boundaries were extended in 1950. This same situation is true for Mbale and Kampala, prior to the 1969 census. In spite of the changes in the geographic boundaries of cities, one can generalize high rates of growth of population in urban centres during the post-war period.

There are many factors which are responsible for such development in Uganda. They include, *inter alia*, improvement in communication, increased immigration arising from the refugee problem in some neighbouring countries,<sup>1</sup> a rapid overall population growth in the country, and the relatively higher level of industrial growth which the period has witnessed with accompanying improvement in urban employment opportunities. To a large extent, therefore, urbanisation is a normal consequence of economic development and further substantial growth in the cities can be expected in the future.

However, little is known about the factors underlying urbanization in Uganda, and its consequent policy implications, particularly in urban nutrition. There is therefore a need for studies in this field, more so because of the increasing demand for food which urbanisation calls for in order to satisfy urban nutritional needs. Should such demand continue to be met from domestic agriculture, as seems likely for some time to come, this will create a challenge in food production policy which will have to be met.

In addition, there is also likely to be an income effect. *Per capita* demand for foodstuffs will increase if income levels in the towns rise, as the urban population will be able to afford foodstuffs in greater quantity and quality. The level of efficiency (both technical and economic) of the peasant farmer will have to improve to cope with these increased food demands. Failure to do so could lead to demand-induced inflation and a lowering of the rate of economic growth such as has occurred in countries like India and Ghana.

All this calls for more research into the present character of urban food consumption, and the changes in demand that are likely

<sup>1</sup>For instance, immigrants comprise 28 per cent of the total urban labour force 1962 (Uganda Ministry of Economic Planning, Statistics Branch, 1962). These immigrants were mainly from Congo Kinshasha, Ruanda, Sudan and Burundi. No later statistics have been published *i.e.* from the 1969 census.

## URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

to accompany changes in taste and incomes. The capacity and efficiency of present marketing systems need to be studied along with the response of peasant farmers to increased demand and changes in prices.

### GOVERNMENT URBAN WAGE POLICIES IN UGANDA

In spite of gaps in knowledge on urban food consumption patterns a limited amount of research has been carried out in Jinja, Kampala, Gulu, Mbale and Fort Portal. This has provided useful quantitative evidence concerning present food expenditure patterns. Indeed, Uganda, along with Ghana, has been a pioneer in this field. Urban budget surveys of low income groups have been conducted at intervals by the East African Statistics Department, Uganda Branch, since 1949 and by the Uganda Ministry of Economic Development, Statistics Branch since 1961.

The policy objective underlying these surveys, however, was concerned largely with ensuring first that wage movements kept pace with increases in the cost of living among unskilled labourers; secondly, and related to this, that a regular supply of labourers in the urban areas was attracted and maintained. By contrast Government policy outside the urban areas (more specifically outside Kampala and Jinja) was aimed at inducing employers to provide their workers with suitable conditions of living by providing rent free housing and other amenities, plus free rations of food, whilst leaving wages to find their own level. In Kampala and Jinja this was considered impracticable, so the Government has built houses to rent and has kept a watchful eye on the supply of food in the markets and shops. The Government has, therefore, regarded it as its duty to ensure that wages are adequate for these purposes and to ensure that they do not fall behind increases in the cost of living for any length of time. It was felt that this would also avoid any adverse effect on the supply of labour, especially in the long run. In addition the Government in its wages policy was also prompted by the desire to maintain and promote greater stability in the labour market and to this end it pursued a policy of raising gradually the wages of labourers to encourage migrant labour to stay (Elkan, 1960).

The Government furthered these aims by action along the following lines. In 1949 it undertook the first of a number of cost of living surveys in Kampala and Jinja; these seemed to show that the wages of unskilled workers at that time were inadequate to satisfy elementary needs. As a result, the Government enacted an Ordinance<sup>2</sup> which gave it ultimate power to fix minimum wages for all employers. Wage

<sup>2</sup>The Minimum Wages Ordinance, 1949.

## NUTRITION and FOOD in an AFRICAN ECONOMY

orders were to be made by the Central Labour Advisory Board with the Governor's approval after receiving reports from the Provincial Labour Advisory Board which was set up in the various regions.

The first order under this Ordinance, made early in 1950, related to Kampala and Jinja. It fixed a minimum wage of Shs. 33 per month for these towns, raising unskilled wages by some Shs. 6 per month. Another order was made in 1957 and revised under the Minimum Advisory Board and Wages Council Act of 1964. It became operative in December 1965 and laid down minimum wages for Kampala and Entebbe at Shs. 150 per month. At the same time rural wages were fixed for the first time at Shs. 75 per month, although this rate has not been effectively enforced in the essentially low labour cost rural market.

Table 9:II illustrates the movement of wages for the period 1951-1970 as a result of official wages policy. These refer only to wages paid by the public authorities and not by the private sector. In fact, wages in both the private and public concerns have risen markedly. Between 1951 and 1954 the rise was probably of money wages on account of the boom conditions in the export sector following high prices for primary commodities following the Korean War and inflationary conditions which prevailed. For most of the period since then there was a rise in real wages as the cost of living index has, speaking in general, remained at a fairly steady level (Table 9:II).

**Table 9:II** WAGES PAID BY PUBLIC AUTHORITIES AND RETAIL PRICES: KAMPALA 1951-1970

Year (June)	Unskilled wage rate	Unskilled wage index	Retail price index
1951	39/60	100	100
1952	43/60	110	100
1953	46/00	130	172
1954	51/60	164	145
1955	65/00	172	120
1956	65/00	172	117
1957	68/00	172	108
1958	68/00	172	112
1959	75/40	172	108*
1960	68/00	172	102*
1961	80/50	203	118*
1962	112/00	283	102*
1963	120/00	283	113*
1964	120/00	-	113*
1965-70	150/00	-	113*

Source: Uganda Government Labour Department, *Annual Reports*, 1951-63.

\*Calculated from *Economic and Statistics Review*, No. 17, December, 1965, p.52.

Altogether, some fourteen of these surveys have been conducted to date, the basic outlines of which are given in the table which follows.

It will be seen that the main sample characteristic of these surveys is that they encompassed unskilled labourers i.e. the lowest paid workers. However, a survey of the middle income groups was

## URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

Table 9:III      URBAN BUDGET SURVEYS IN UGANDA 1950-1965

City or Town	Survey Period	Number of households	Average monthly expenditure per Household	Basic monthly wage (shs.)
Kampala	1949	-	28.7	Not more than 30
Kampala	Sept. 1950	55	41.3	33-35
Kampala	Aug-Sept 1951	110	38.4	36.40
Kampala	Sept. 1952	155	43.5	40-45
Kampala	Aug-Sept 1953	175	55.1	43-55
Kampala	Jan-Feb 1957	171	77.4	61-80
Kampala	Feb. 1964	180	79.1	100-150
Jinja	Nov-Dec 1951	96	43.3	36-42
Jinja	Nov. 1952	104	44.1	-
Jinja	Jun. 1965	150	186.9*	100-200
Mbale	Sep. 1950	80	40.3	Not more than 27
Mbale	Feb. 1958	111	97.0	51-70
Gulu	Feb. 1958	180	36.3	30-75
Fort Portal	Feb. 1960	179	62.0	35-60

*Source: The patterns of income expenditure and consumption of African unskilled workers, Entebbe, East African Statistical Department, Statistics Branch (since 1961).*

\* Results seem dubious.

also conducted<sup>3</sup> in 1962 but it has not, unfortunately, been published. Similarly a high income group was studied in 1964 by the Ministry of Economic Planning, Statistics Branch, but due to considerable difficulties experienced in the survey it has not proved possible to publish the results.

### THE METHODOLOGY AND RESULTS OF URBAN BUDGET SURVEYS

The essential feature of the method of conducting these surveys is the daily interview of the respondents, who are unskilled labourers employed in both the public and private sectors. The sample frame is in general provided by the Labour Enumeration records prepared annually by the Government. Systematic sampling of the employee is then drawn in clusters to reduce the number of visits. The number of employees to be included are then selected randomly from the muster rolls. The criterion for inclusion in the sample is a stipulated wage level which the Government considers to be representative of the unskilled labourers. During the daily interviews records are taken of income, expenditure and food consumption for each sample household. The surveys usually cover a period of thirty days.

Lastly, more emphasis has also been placed on the estimates of quantity and value of home grown food or food gifts from relatives and neighbours because of the importance of these items particularly

<sup>3</sup> Personal communication with Miss A.M. Martins, Statistics Department, Entebbe.



## NUTRITION and FOOD in an AFRICAN ECONOMY

in 'up-country' dietary habits. This was true for example, in the case of the Fort Portal, Gulu and Mbale surveys.

Mention has already been made above of the way in which the results of the budget surveys have been used in the Government's wages and labour policies. However, the statistics have also provided useful quantitative evidence concerning present expenditure patterns and their variations. W.O. Jones (1960), for example, analysed the results of the budget surveys in Uganda (up to 1957) and along with evidence provided in other parts of Africa, used the data to test the hypothesis advanced by some economists that African man is not motivated by economic incentives. This analysis of actual market situations suggests that the African in general behaves as an economic man. Thus, as a result of a poor harvest due to the failure of rains in the preceding year, the price level of the major foodstuffs in Kampala in 1953 was generally much higher. The effect of the shortage of food supplies was buttressed by boom conditions in the early post-war period particularly those associated with the Korean crisis and high prices for Uganda's major cash crops, coffee and cotton. There was moreover, a high level of urban employment during this time. The effects may be seen in Table 9:IV.

**Table 9:IV FOOD EXPENDITURE PATTERNS AND RELATIVE PRICES,  
KAMPALA 1950-1953, 1957 and 1964**

**A Expenditure:**

Date of survey	Total expenditure per household (shs)	% spent on food	Expenditure on starch staples as % of total food expenditures					
			Total	Maize flour	Matoke	Cassava	Sweet potato	Bread
Sep. '50	41.34	57.3	45.9	2.7	15.8	11.7	13.5	2.2
Sep. '51	38.41	61.8	47.6	4.5	17.4	14.7	6.9	4.1
Sep. '52	43.50	64.9	50.5	5.5	24.2	9.7	7.4	3.7
Sep. '53	55.13	64.9	51.1	22.6	8.9	6.3	9.7	3.6
Feb. '57	77.39	58.3	45.5	15.0	21.1	2.3	4.8	2.3
Feb. '64	158.17	50.1	35.0	12.6	17.0	1.0	1.8	2.6

**B Prices:**

Date of survey	Maize	Matoke	Cassava		Sweet Potatoes	Bread	Groundnuts	Sugar
			Fresh	Flour				
(shillings per 1,000 calories)								
Sep. '51	.12	.26	.10	.19	.20	-	.34	.25
Sep. '52	.18	.24	.14	.20	.20	-	.34	.26
Sep. '53	.17	.62	.34	.27	.43	-	.37	.35
Feb. '57	.16	.21	-	.28	.23	.51	.48	.31
Feb. '64	.18	.21	-	.12	.25	-	.42	.36
Relative Prices: Maize price per 1,000 calories = 100								
Sep. '51	100	217	83	158	167	-	283	208
Sep. '52	100	133	78	111	111	-	189	144
Sep. '53	100	365	200	159	253	-	218	206
Feb. '57	100	131	-	125	144	319	300	194
Feb. '64	100	117	-	67	139	-	233	200

**Sources:** Based on H. Kaneda and B.F. Johnston, Urban food expenditure patterns in tropical Africa, *Food Research Institute Studies*, Stanford, 1961, Table 5, p.244, revised to include the 1964 Kampala survey results.

## URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

The prices of matoke, sweet potatoes and cassava doubled or trebled compared with those of previous years. For instance, the price of matoke rose from 26 cents per 1,000 calories in 1951 to 62 cents in 1953. Over the same period the price of fresh cassava rose from 10 to 34 cents; cassava flour from 19 to 27 cents while that of sweet potatoes rose from 20 cents to 43 cents. By contrast the prices of groundnuts and sugar showed only modest increases while that of maize flour remained at more or less a constant level. This was because the Government set a ceiling price for maize flour to ensure a regular supply of this basic commodity.

Table IV also shows that in 1952 and 1953 the proportion of income devoted to starchy staples was the highest (just over 50 per cent in each year) recorded in the Kampala surveys to date. Moreover, during the two years the proportion of the food budget spent on fish and on meat actually showed a decline from the levels of the previous years (Kaneda and Johnston, 1961, Table III, p. 273). Other major items such as groundnuts, beans and sugar, whose prices did not change much, maintained about the same proportion of total expenditure as before.

Another feature of this study is that it indicates tribal differences in the reaction to these price changes between Ganda, Toro and Nyankole-- the three main tribal groups included. For instance, in 1952 maize meal purchased amongst the Ganda and Toro amounted to only 3.0 and 3.8 per cent of total food expenditure, respectively, they rose to 7.7 and 18.4 per cent in 1953 (East African Statistics Department, 1952, 1953). Amongst the Nyankole, on the other hand, a five-fold increase in maize consumption was recorded.

The Ganda, who customarily spend as much as 25 per cent of all expenditure on matoke, also increase their expenditure on sweet potatoes (in addition to maize meal). In this case, however, since potatoes were more expensive than maize or cassava in 1953 and the Ganda have the highest per capita income in the group, this shift to another preferred food represents an income effect.

By 1957 prices had dropped to more normal levels and the 1957 survey shows the Ganda to have resumed their usual consumption of matoke, a trend which is also evident in the 1964 survey (when 23.7 per cent of total expenditure was spent on this food item alone). Amongst the Toro, maize consumption fell much below the 1953 level but matoke consumption fell roughly to the 1952 level. By contrast the 1957 survey shows maize meal to have largely displaced cassava among the Nyankole while matoke remained at the 1952 level. Unfortunately, from the point of view of this analysis, the 1964 survey classifies the Toro, Nyankole and Nyaruanda together, making it impossible to extend these comparisons to this date. These tribal differences may be due to a number of factors among which may be

## NUTRITION and FOOD in an AFRICAN ECONOMY

suggested regional differences in the physical environments which determine or influence agricultural potential of the area, the efficiency of the marketing mechanism, the degree of control of imported foodstuffs, differences in income levels, exposure to external influences and cultural and historical factors which influence food preference patterns.

It is also relevant to note in the 1964 survey that firstly, the price level of these foodstuffs remained stable after 1953; secondly, the proportion of expenditure on food as a percentage of total expenditure actually dropped-- to 50 per cent from the previous level of roughly 60 per cent. Thirdly, expenditure on starchy staples as a percentage of total food expenditure also fell slightly-- to 44 per cent. Whether these points suggest a general rise in the level of real income and a fall in the relative expenditure on food cannot be answered with certainty without further investigations although *prima facie* it appears to be the case.

These urban consumption surveys demonstrate that when Kampala consumers were pressed by high prices of the staple food they altered their usual dietary pattern of staple food consumption in response to the change in relative prices. Such behaviour is entirely consistent with orthodox notions of economic response and rationality. In fact, had the Government not intervened in regulating the price of maize flour in 1963 the general price level would have soared to much higher levels. Policies of this kind by control have frequently been criticised by agricultural economists (Martin, 1963) but this instance, where it has proved successful, deserves to be noted.

In general the studies reveal a very high proportion of income that is spent on food (Table 9:V). In many cases in the Jinja and Kampala surveys about 60 per cent or more of average expenditure was on food. This situation is generally typical of low income families. It is moreover largely due to this fact that a substantial rise in food prices has such a serious impact in the developing countries, as witnessed by incidence of food-cum-political riots in India. This tendency to consume large proportions of income on food at low income levels is what economists refer to as Engel's Law. However, the Law usually refers to families at different income levels and because the Uganda surveys have been done primarily on low income groups it has not as yet been possible to establish its validity here, although there is no reason to think that the Law would not apply.

In the table below, the much lower percentage of expenditure on food for Gulu *vis à vis* Kampala and Jinja, for example, is probably due to the fact that a high proportion of the respondents in this town live outside the town where they grow most of their food requirements.

## URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

**Table 9:V** TOTAL AND PERCENTAGE EXPENDITURE ON FOOD IN  
SELECTED CITIES, UGANDA, 1950-1964

City or Town	Monthly Average Expenditure per family (shs)	Expenditure on Food as a percentage of average expenditure per family
<b>KAMPALA</b>		
1950	41.3	57.3
1951	38.4	61.8
1952	43.5	64.9
1953	55.1	64.9
1957	77.4	58.3
1964	79.1	50.0
<b>JINJA</b>		
1951	43.3	68.4
1952	44.1	66.7
<b>MBALE</b>		
1958	97.0	66.4
<b>FORT PORTAL</b>		
1960	36.8	59.5
<b>GULU</b>	36.3	43.6

*Sources: The patterns of income expenditure and consumption of African unskilled workers; East African Statistics Department (up to 1960); Ministry of Economic Development, Statistics Branch, Entebbe (since 1961).*

### LIMITATIONS OF URBAN BUDGET SURVEYS IN UGANDA.

Although the urban budget surveys conducted in Uganda have proved helpful in the Government's wages and labour policies and other economic fields indicated above, there are very many limitations which surround them. A great deal of discretion is therefore required in their interpretation especially when used for comparative purposes. Some of these limitations are statistical in nature, as, for instance, those relating to urban population estimates including their distribution and income. Urban cities and towns in Uganda are heterogenous, with different tribes whose members all differ according to the degree of urban acculturation. Thus, it is particularly difficult to obtain a representative sample of the population of a city or town or a well defined stratification of the urban population being sampled. There are also major difficulties in collecting accurate data, for instance, the high rate of illiteracy and the fact the 'family' or 'household' is often not a well defined unit. Moreover, the surveys describe only the size of the sample household but not the age and sex distribution. There is also a tendency probably to under-estimate consumption, particularly of food items that are purchased for 'snack' consumption.

There is also the problem of whether to include single people. They should perhaps have been left out or treated differently in the sampling frame. For instance, some urban workers who receive low income leave their families behind in the rural areas, so that the survey results are likely to grossly underestimate real conditions of living, that is the conditions of living are much better than the survey results suggest.

## NUTRITION and FOOD in an AFRICAN ECONOMY

There is also the question of comparing one survey with another. Under rapid economic development, levels continue to rise, people improve their skills with experience and move on to the next wage bracket so that one is dealing with new populations all the time. It is therefore not statistically valid to compare one survey with the next. Conditions under which the surveys are carried out, change greatly year after year.

Other limitations are structural in character. For example, all the surveys cover a short period usually thirty days, and therefore may show considerable seasonal bias. Generalization from surveys related to such short periods of time may not be valid for longer periods. Food consumption may be expected to show marked seasonal fluctuations, including consumption patterns of the major staple foodstuffs. For instance, Poleman (1961) has demonstrated that in Ghana during a period of twelve months (October 1957 to September 1958) seasonal variation in staple supplies is considerable. Another limitation is that these surveys have concentrated solely on low income unskilled labourers and ignored the behaviour of the middle and high income brackets whose dietary consumption habits may well indicate future urban consumption patterns given the continued growth of per capita incomes arising from economic development in general. The income class intervals which are included seem to be too low in view of the growth in per capita income which has taken place in Uganda since the war, especially the rapid rise in legal minimum wage rates in the 1960's.

There are other limitations, for example, the exclusion of transport costs from the 'basket' of goods which are used in compiling the cost of living indices. Transport costs must be an increasingly important expenditure of working classes, affecting their costs of living. Cold soft drinks like Coco-Cola are also excluded although general observation suggests that more working class people are consuming such commodities.

### THE KAMPALA MARKET SURVEY 1967/1968

In the remaining section of this chapter, a brief description is given of a market survey conducted in Kampala from March 1967 to April 1968. The purpose of the study was to inquire into the nature of the basic food supply in Kampala over a period of twelve months, this is taking into account seasonal variations which occur over the year.

The survey was based on the records of produce flow in the markets-- covering between them about 85 per cent of the total supply of bananas, sweet potatoes and fresh and dry cassava which were the items included in the study. The importance of these commodities in the urban dietary consumption pattern is indicated by the fact that they comprise an average of 45 per cent of the total expenditure

## URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

devoted to food (Table 9:IV) among unskilled labourers in Kampala. The information sought included origin, transport mode, data and name of vehicle owner. In addition, a series of commodity prices was also collected in two selected markets.

As regards the statistical reliability of the data, no attempt was made to achieve a complete coverage of the 'universe' since some of the markets were of only minor importance so far as total volume of food supply is concerned. Compared to the cost that would be incurred had they been included, it was considered more efficient to limit the sample size to 15 markets.

Appendices I, II and III give the flow of the four commodities covered in the survey, spatially and over time. The observations which stand out may be summarized as follows. First, the quantity of bananas displays fairly wide fluctuations which are strongly influenced by seasonal factors. Thus, the sharp drop in supply in October is the result of the dry weather experienced between July and August. However, the amplitude of the variations is somewhat dampened by the wide geographical distribution of supply sources as Appendix I indicates. Poleman (1961) also found evidence in Ghana of seasonal fluctuations in the supply of maize and processed cassava-- the two major calorie sources. In the Kampala study, it was observed that bananas also exhibited a similar trend in its flow over the year.

Secondly, the supply of sweet potatoes (Appendix II) exhibits somewhat erratic distribution although a seasonal trend is also displayed here. A characteristic feature of this crop is, however, is its widespread cultivation on dry land during the rainy season and in swamps during the dry season. Supply therefore fluctuates but less violently but not in a clearly discernible manner.

Thirdly, in the case of fresh cassava (Appendix III) supply fluctuates less violently along a downward trend. Both fresh and dry cassava are relatively unimportant in the diets of urban dwellers (save for some migrant labourers). The demand for such commodities therefore increases only if there is relative increase in the prices of the other staples. Schubert (1968) has also noticed that in the case of Jinja the importance of cassava and sweet potatoes, which are normally regarded as main staples, is in fact small.

At the time of going to press the analysis of the results of the Kampala market survey are as yet incomplete. The evidence to date suggests that the supply of basic staples tend to be adequate so far as the food situation is concerned, although periodic shortages of some individual staples may occur, especially bananas which rank highest in the hierarchy of scale of food preference. To some extent this may be a reflection of the efficiency of the market mechanism

## NUTRITION and FOOD in an AFRICAN ECONOMY

but further analysis of the data, especially those related to transport, is necessary before any firm conclusions can be drawn in this respect.

### APPENDIX I

SUPPLY OF MATOKE INTO GREATER KAMPALA, April 1967-March 1968 (tons)

Origin	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
<b>BUGANDA</b>												
Buddu	50	53	36	160	227	209	54	70	42	19	40	87
Busiro	1	-	-	1	-	*	2	*	*	*	1	-
Bulemezi	4	2	-	1	1	1	2	5	31	11	-	-
Bugerere	252	267	225	350	140	152	185	394	371	443	440	322
Singo	143	121	123	191	155	94	105	163	225	300	367	255
Mubende	-	-	31	-	-	-	-	-	-	-	-	-
Mawokota	-	-	-	1	1	1	*	*	1	1	*	*
Busujju	-	-	-	-	*	*	*	-	-	-	-	-
Kyaggwe	105	181	182	167	133	154	133	227	168	158	215	151
Kyaddondo	22	17	18	38	21	25	25	30	29	24	31	23
Butambala	-	-	-	-	-	-	-	-	1	-	-	-
Gomba	-	-	-	-	-	-	-	-	-	-	-	*
<b>Total</b>	<b>578</b>	<b>641</b>	<b>615</b>	<b>909</b>	<b>678</b>	<b>640</b>	<b>507</b>	<b>891</b>	<b>868</b>	<b>956</b>	<b>1101</b>	<b>846</b>
<b>OUTSIDE BUGANDA</b>												
Toro	-	-	-	-	-	-	-	-	-	-	-	-
Ankole	54	55	30	27	43	136	-	-	3	-	-	1
Busoga	-	-	-	-	3	-	-	-	-	-	-	-
Bunyoro	1	-	-	-	-	-	-	-	-	-	-	-
Bugisu	131	40	-	-	-	-	-	-	-	-	-	-
Bukoba	-	-	-	-	-	-	-	2	-	-	1	-
<b>Total</b>	<b>186</b>	<b>95</b>	<b>30</b>	<b>27</b>	<b>46</b>	<b>136</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>-</b>	<b>1</b>	<b>1</b>
<b>Grand Total</b>	<b>764</b>	<b>736</b>	<b>645</b>	<b>936</b>	<b>724</b>	<b>776</b>	<b>507</b>	<b>893</b>	<b>871</b>	<b>956</b>	<b>1102</b>	<b>846</b>

### APPENDIX II

SUPPLY OF SWEET POTATOES INTO GREATER KAMPALA, April 1967-March 1968 (tons)

Origin	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
<b>BUGANDA</b>												
Buddu	-	-	-	-	-	-	-	-	-	-	-	-
Busiro	10	6	6	8	3	5	3	12	5	5	12	10
Bugerere	3	1	-	-	-	2	2	2	-	1	3	4
Bulemezi	1	1	-	3	3	4	5	5	3	1	4	4
Kyaggwe	8	6	3	7	3	3	4	1	2	2	3	5
Kyaddondo	62	62	55	80	115	169	131	167	118	126	156	145
Singo	1	-	-	1	-	1	1	1	*	*	-	*
Mawokota	-	-	1	-	-	-	-	-	-	-	-	*
Busujju	-	-	-	-	-	-	-	*	-	-	*	-
<b>Total</b>	<b>85</b>	<b>76</b>	<b>65</b>	<b>99</b>	<b>124</b>	<b>183</b>	<b>146</b>	<b>186</b>	<b>128</b>	<b>136</b>	<b>178</b>	<b>168</b>
<b>OUTSIDE BUGANDA</b>												
Ankole	1	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Grand Total</b>	<b>86</b>	<b>76</b>	<b>65</b>	<b>99</b>	<b>124</b>	<b>183</b>	<b>146</b>	<b>186</b>	<b>128</b>	<b>136</b>	<b>178</b>	<b>168</b>

\*Less than 1

## URBAN FOOD CONSUMPTION PATTERNS IN UGANDA

### APPENDIX III

#### SUPPLY OF FRESH CASSAVA INTO GREATER KAMPALA, April 1967-March 1968 (tons)

Origin	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
BUGANDA												
Busiro	19	19	16	20	11	12	14	16	8	8	8	8
Kyaddondo	73	75	75	106	72	84	51	81	52	43	49	48
Kyaggwe	3	2	2	3	2	4	3	3	1	1	2	1
Mawokota	1	1	-	-	-	-	-	-	-	-	-	*
Singo	1	-	-	-	1	*	-	1	*	*	-	-
Bulemezi	1	1	-	-	1	3	1	1	1	-	2	*
Bugerere	-	-	-	-	1	-	-	*	-	-	-	-
Busujju	-	-	-	-	-	-	-	-	-	-	-	-
Gomba	-	-	-	-	-	-	-	-	-	-	-	-
Kabuta	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>98</b>	<b>97</b>	<b>93</b>	<b>129</b>	<b>87</b>	<b>103</b>	<b>69</b>	<b>102</b>	<b>62</b>	<b>50</b>	<b>61</b>	<b>57</b>

\*Less than 1

#### REFERENCES

- Danielsson, L., 1966 A residential unit, *Kampala-Mengo regional planning studies*, no. 8.
- E.A.C.S.O., Statistical Department, 1965, Retail price index numbers, *East African Economic and Statistical Review*, 17:52.
- Elkan, W., 1960, *Migrants and proletarians; urban labour in the economic development of Uganda*, London, published on behalf of the East African Institute of Social Research by Oxford University Press.
- F.A.O., 1964, *Programmes of food consumption surveys*, Rome, F.A.O.
- Jones, W.O., 1959, *Manioc in Africa*, Stanford, Calif., Stanford University Press.
- Jones, W.O., 1960, Economic man in Africa, *Food Research Institute Studies*, Stanford, 1, 2:107-134.
- Kaneda, H., and B.F. Johnston, 1961, Urban food expenditure patterns in tropical Africa, *Food Research Institute Studies*, Stanford, 2, 3:229-75.
- Martin, Anne, 1963, *The marketing of minor crops in Uganda*, London, H.M.S.O.
- Miracle, M.P., 1966, *Maize in tropical Africa*, Madison, University of Wisconsin Press.
- Mukwaya, A.B., 1962, The marketing of staple foods in Kampala, Uganda, in *Markets in Africa*, eds. P. Bohannon, and G. Dalton, Evanston, III, Northwestern University Press.
- Poleman, T.T., 1961, The food economies of urban middle Africa: the case of Ghana, *Food Research Institute Studies*, Stanford, 2, 2:121-74.
- Poleman, T.T., 1965, *The nutritional concomitants of urbanisation in selected countries of sub-Saharan Africa*, Rome, F.A.O.
- Poleman, T.T., 1967, On quantifying the Malthusian dilemma, R.D.R. 37, Faculty of Agriculture, Makerere University College, Kampala.



## NUTRITION and FOOD in an AFRICAN ECONOMY

- Schubert, B., 1968, *The development of the food marketing system under the impact of urbanisation and industrialisation in the Jinja area*, R.D.R. 53, Faculty of Agriculture, Makerere University College, Kampala.
- Sofer, C., and R. Sofer, 1955, *Jinja transformed: a social survey of a multi-racial township*, Kampala, East African Institute of Social Research.
- Southall, A.W., and P.C.W. Gutkind, 1957, *Townsmen in the making: Kampala and its suburbs*, Kampala, East African Institute of Social Research.
- Uganda, Statistics Division, 1950, *The patterns of income, expenditure and consumption of African unskilled workers in Kampala, 1949*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1951, *The patterns of income, expenditure and consumption of African unskilled workers in Kampala, September, 1950*, Entebbe.
- Uganda, Statistics Division, 1951, *The patterns of income, expenditure and consumption of African unskilled workers in Mbale, September, 1950*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1952, *The patterns of income, expenditure and consumption of African unskilled workers in Kampala, August-September 1951*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1952, *The patterns of income, expenditure and consumption of African unskilled workers in Jinja, November 1951*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1953, *The patterns of income, expenditure and consumption of African unskilled workers in Kampala, September 1952*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1953, *The patterns of income, expenditure and consumption of African unskilled workers in Jinja, November 1952*, East African Statistics Department.
- Uganda, Statistics Division, 1954, *The patterns of income, expenditure and consumption of African unskilled workers in Kampala, August-September, 1954*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1957, *The patterns of income, expenditure and consumption of African unskilled workers in Kampala, January-February 1957*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1958, *The patterns of income, expenditure and consumption of African unskilled workers in Mbale, February 1958*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1960, *The patterns of income, expenditure and consumption of African unskilled workers in Fort Portal, February 1960*, Entebbe, East African Statistics Department.
- Uganda, Statistics Division, 1961, *The patterns of income, expenditure and consumption of African unskilled workers in Gulu, 1961*, Entebbe, East African Statistics Department.

## FOOD REQUIREMENTS AND AVAILABILITY IN UGANDA

Uganda, Statistics Division, 1965, *The patterns of income, expenditure and consumption of African unskilled workers in Kampala, February 1964*, Entebbe, Ministry of Planning and Economic Development.

Uganda, Statistics Division, 1966, *The patterns of income, expenditure and consumption of African unskilled workers in Jinja, 1965*, Entebbe, Ministry of Planning and Economic Development.

Uganda, Statistics Division, *Uganda Census, 1948*, Entebbe, East African Statistics Department.

Uganda, Statistics Division, *Uganda Census, 1959*, Entebbe, Ministry of Economic Affairs.

Uganda, Statistics Division, 1957, *The index of retail prices in African markets, Kampala, 1957*, Entebbe, East African Statistics Department.

Uganda, Statistics Division, *Annual reports, Enumeration of employees*, Entebbe, Ministry of Planning and Economic Development.

United Nations, 1955-1965, *Demographic Yearbook*, successive issues, New York, U.N.