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FOOD ACCOUNTING
FOR
STATISTICALLY UNDERDEVELOPED COUNTRIES

LECTURE ILLUSTRATIONS

By

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WARREN HALL

10 February 1977

The materials presented here are intended to illustrate a lecture on food accounting techniques appropriate to less-developed countries. They are drawn from many sources, but as most are either the work of me or my students, they mirror the evolution of our thinking.

The food balance sheet is introduced first. Still the basic tool of the food economist, it remains in the LDCs depressingly susceptible to the pitfalls of "garbage in, garbage out." But there are ways to filter the garbage.

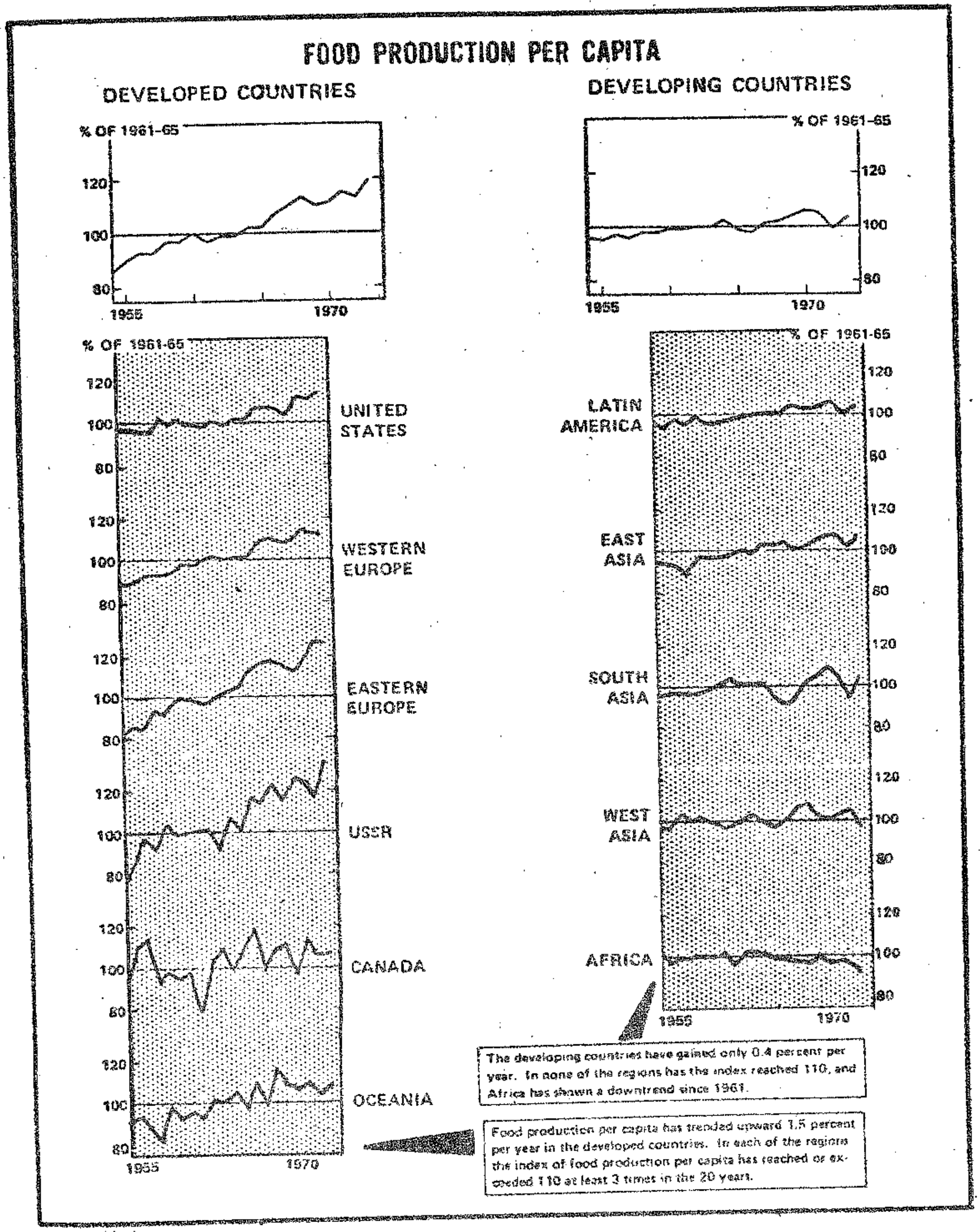
Comparatively giant strides have been made with the household budget survey. Once carried out primarily to provide weights for urban living cost indices, a few in recent years have had the whole spectrum of food behavior as their purview. One such was the 1969/70 Socio-Economic Survey of Ceylon, which yielded a wealth of information. More are urgently needed. With a salute to the former Director of Statistics of Ceylon, the excellent L. N. Perera, we reproduce a minified version of the questionnaire.

Despite its many attractions, our third tool, the road-check survey, remains little used in the LDCs. Politics, I suppose. The truck one wants to stop is increasingly likely to be carrying contraband.

Still there are grounds for optimism. The desirability of food planning is widely preached and gaining acceptance. An essential precondition is trustworthy quantification.

Thomas T. Poleman

CHART 1*



* Reproduced from USDA, ERS, The World Food Situation and Prospects to 1985 (December 1975), p. 15.

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USDA series for Africa per capita food production (Chart 1) based on:

1. Maize in South Africa
2. Wheat in Morocco and Tunisia
3. Cotton in Egypt, Sudan, and Tunisia
4. Cocoa in Ghana, Nigeria, and Ivory Coast
5. Coffee in a number of countries.

TABLE 1. NUMBER OF PEOPLE ESTIMATED BY THE FAO TO HAVE HAD AN INSUFFICIENT PROTEIN-ENERGY SUPPLY IN 1970, BY REGION*

Region	Population (millions)	Percentage below lower limit	Number below lower limit (millions)
Developed	1074	3	28
Developing*	1751	25	434
Latin America	283	13	36
Far East*	1020	30	301
Near East	171	18	30
Africa	273	25	67
World*	2825	16	462

* excluding Asian centrally planned economies.

* Data from UN, World Food Conference, "Assessment of the World Food Situation--Present and Future" (Rome, 5-16 November 1974), p. 66.

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TABLE 2. FAO ESTIMATES OF AVERAGE ENERGY AND PROTEIN SUPPLY, 1961 AND 1969-71, BY REGION*

	Energy		Protein		Energy as Percent of Requirement	
	1961	1969-71 Average	1961	1969-71 Average	1961	1969-71 Average
	(kcals per caput)		(grms per caput)		(percent)	
Developed market economies	2950	3090	87.5	95.1	115	121
Western Europe	3020	3130	89.3	93.7	118	123
North America	3110	3320	92.3	105.2	118	126
Oceania	3210	3260	92.7	108.1	121	123
Other developed market economies	2420	2550	73.3	79.1	102	108
Eastern Europe and U.S.S.R.	2990	3260	85.8	99.3	116	127
TOTAL Developed Countries	2960	3150	87.0	96.4	116	123
Developing market economies	2130	2210	55.0	56.0	93	97
Africa	2120	2190	55.7	58.4	91	94
Far East	2050	2080	51.3	50.7	92	94
Latin America	2410	2530	63.7	65.0	100	105
Near East	2200	2500	62.3	69.3	89	102
Asian centrally planned economies	2020	2170	54.7	60.4	86	92
TOTAL Developing Countries	2100	2200	54.9	57.4	91	95
WORLD	2380	2480	65.2	69.0	100	104

* Reproduced from UN, World Food Conference, "Assessment of the World Food Situation--Present and Future" (Rome, 5-16 November 1974), p. 58.

The figures relate to protein and energy content of the food available at the retail level after allowance for the storage and marketing losses and waste.

NATIONAL FOOD ACCOUNTING

Objectives	Data Sources
To quantify present average situation	Food balance sheet
Breakdown by:	
Income	Household budget survey
Locality	
Season of year	Nutrition survey
Place in family	
To quantify likely future situation	Road check-cum-marketing survey

Food Balance Sheet

Prod. ± trade ± stocks = seed + feed + waste + nonfood + processing + human consump.

"Famine equation": $\frac{\text{AHC}}{365 \times \text{population}} - 15\% \lessgtr$ "requirements"

Limitations
1. homogeneity assumption
2. data availability

Conclusion: a useful tool, but handle with care. Compare with other evidence.

Household Budget Survey

Most useful data source (but remember purpose for which it was conducted)

Usual coverage:
1. 1 week - 1 month
2. small number of households; extrapolation problems
3. urban-rural breakdown
4. ethnic breakdown
5. varying income ranges; often difficult to relate to total population
6. expenditures, not quantities for foodstuffs

Nutrition Surveys

1. Only source for individual food intake
2. Very expensive, very inefficient in use of manpower
3. Tiny samples or misleading results, "Hunger in America"

Road Check-cum-Marketing Surveys

1. Long time coverage--usually 12 months
2. Stop all or % of vehicles at convenient spot
3. Develop common load denominators
4. Variations: markets as to focus

Cost Comparison

FBS - one man, one country

HBS - Ceylon: 250 surveyors, 10,000 households

Road check - Uganda: $10,000

Nutrition Survey - INCAP: $300,000; 34 men; 2,000 households

TABLE 3. FOOD BALANCE SHEET

__________: FOOD BALANCE SHEET, __________

Population: ______ on ______ (______ metric tons unless otherwise specified)

Commodity	Domestic Production	Change in Stocks	Foreign Trade		Gross Supplies	Utilization						Per Capita Daily Availability		
			Gross Ex-ports	Gross Im-ports		Seed	Feed	Ind. Non-Food	Waste	Proces-sing Loss	Available for Human Consumption	Grams	Calories	Protein (grams)

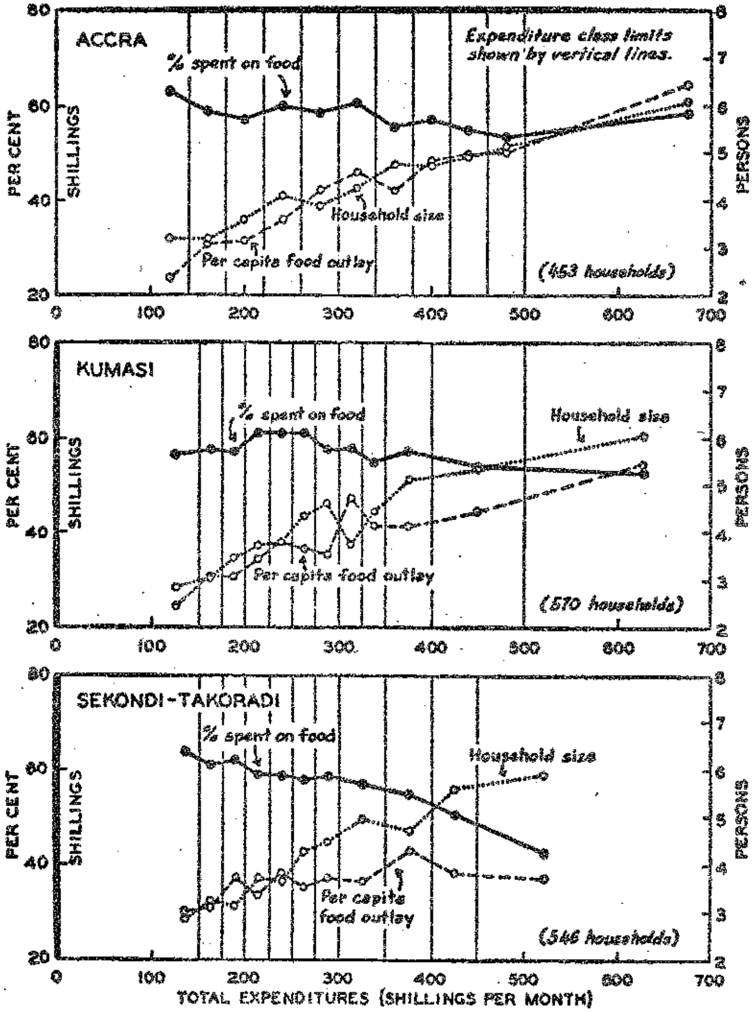
TABLE 4. Ceylon: Food balance sheet, average 1955–60*
(Average population — 9,303,000)

Commodity	Production	Gross exports	Gross imports	Available supply	Seed & feed†	Waste‡	Non-food manufacture	Gross food supply	Extraction rate	Net food supply	Per capita supply per day: Grams	Calories**	Protein** (grams)
	thousand metric tons								percent§	1000 metric tons			
Cereals													
Rice	731.9		712.5	1,444.4	59.4	30.3	—	1,254.7	68–72	943.3	277.7	1,000.0	18.90
Wheat flour	—		206.5	206.5	—	—	—	206.5	—	206.5	60.8	223.0	6.00
Maize	7.5		—	7.5	0.5	—	—	7.0	90	6.3	2.0	7.0	0.02
Kurrakan	17.6		—	17.6	0.5	—	—	17.1	90	15.4	5.0	17.0	0.35
Sorghum	0.8		—	0.8	0.025	—	—	0.8	90	0.8	0.3	3.0	0.03
Total												1,250.0	25.30
Roots and tubers													
Manioc	196.5		—	196.5	—	19.6	—	176.9		176.9	52.1	57.0	0.5
Sweet potatoes	38.9		—	38.9	—	3.8	—	35.0		35.0	10.4	10.0	0.1
Potatoes	0.5		36.0	36.5	—	3.6	—	33.0		33.0	9.6	7.0	—
Total												74.0	0.6
Sugar													
Refined	—		144.2	144.2	—	—	—	144.2		144.2	42.5	164.0	—
Not refined	—		20.8	20.8	—	—	—	20.8		20.8	6.0	21.0	—
Jaggery	—		4.2	4.2	—	—	—	4.2		4.2	1.4	5.0	—
Total												190.0	—
Pulses													
Dhall	—		9.2	9.2	—	—	—	9.2		9.2	2.7		
Green gram	3.6		9.4	13.0	0.22	—	—	12.8		12.8	3.8		
Black gram	—		4.2	4.2	—	—	—	4.2		4.2	1.4		
Chick peas	—		4.9	4.9	—	—	—	4.9		4.9	1.4	58.0	12.7
Lentils	—		16.6	16.6	—	—	—	16.6		16.6	5.0		
Other	2.5		5.8	8.3	0.13	—	—	8.1		8.1	2.5		
Total												58.0	12.7
Vegetables	475.0‖		—	475.0	—	25.0	—	450.0		450.0	125.2	28.0	1.7
Fruits	55.0‖		—	55.0	—	5.0	—	50.0		50.0	14.8	9	0.06
Meat													
Beef	12.9		—	12.9	—	—	—	12.9		12.9	3.8	5.0	0.60
Buffalo	0.9		—	0.9	—	—	—	0.9		0.9	0.3	0.2	0.04
Mutton	1.3		—	1.3	—	—	—	1.3		1.3	0.3	0.4	0.04
Pork	1.1		—	1.1	—	—	—	1.1		1.1	0.3	0.9	0.04
Poultry	0.1		—	0.1	—	—	—	0.1		0.1	0.3	0.4	0.04
Canned meat	—		—	—	—	—	—	—		0.1	—	—	—
Total												7.9	.76
Eggs	7.5¶		1.4	8.8	—	—	—	8.8		8.8	2.5	4.0	0.3
Fish													
Fresh	42.8		—	42.8	—	10.7	17.3††	15.0		15.0	4.4	6.0	0.8
Dried	5.9		38.8	44.7	—	—	—	44.7		44.7	13.2	40.0	6.0
Tinned	—		4.0	4.0	—	—	—	4.0		4.0	1.4	4.0	0.3
Total												50.0	7.1
Milk													
Cow	57.1¶		—	57.1	—	—	—	57.1		57.1	14.0	9.0	.5
Buffalo	15.2¶		—	15.2	—	—	—	15.2		15.2	4.4	4.5	.2
Milk foods	—		1.6	1.6	—	—	—	1.6		1.6	.6		
Total												13.5	.7
Oils & fats													
Coconut	2,300.5	6.7	—	2,293.8	—	—	2,213.8‡‡	80.0	—	80.0	24.0	42.0	.5
Coconut oil	1,100.0	750.0	—	325.0	—	—	—	325.0	—	325.0	37.0	320.0	—
Butter			0.1					0.1		0.1		0.2	
Total												362.2	.5
TOTAL												2,046.6	49.7

* Reproduced from Thambapillai Jogaratnam and T. T. Poleman, Food in the Economy of Ceylon (Cornell Intl. Agric. Dev. Bull. 11, Oct. 1969), pp. 9-10.

CHART 2. TYPICAL BUDGET SURVEY FINDINGS ON FOOD EXPENDITURE BEHAVIOR*

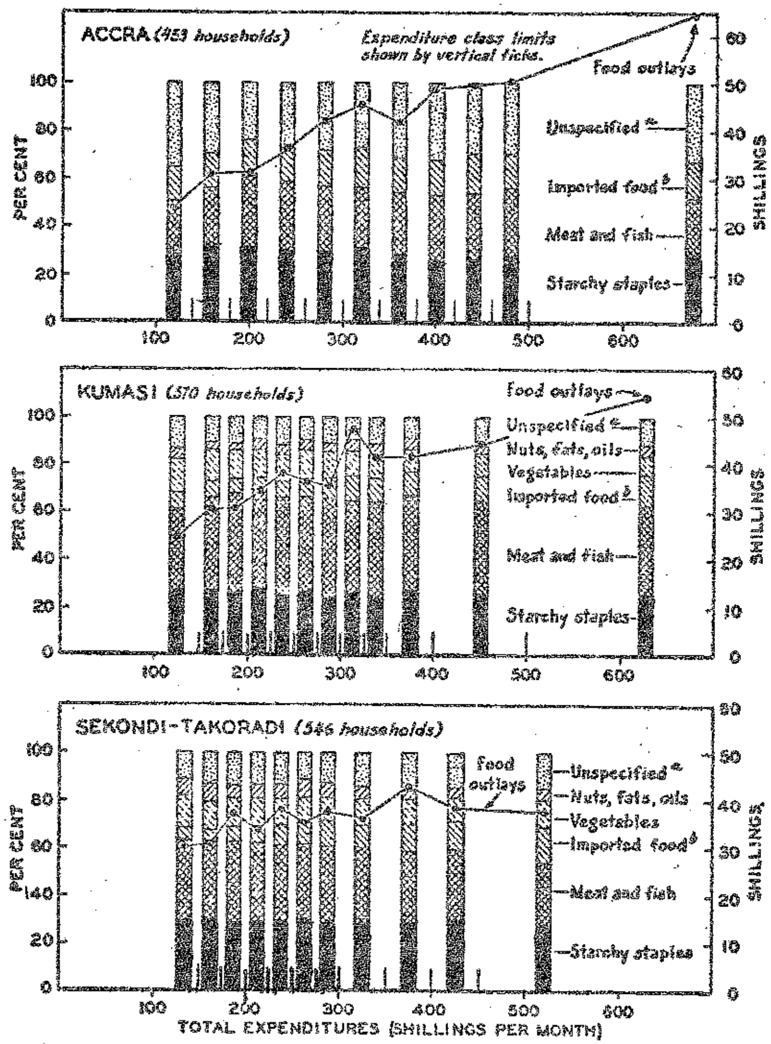
GHANA, URBAN HOUSEHOLD BUDGET SURVEY SAMPLES, 1953 AND 1955: PERCENTAGE OF TOTAL DOMESTIC EXPENDITURES SPENT ON FOOD, PER CAPITA MONTHLY FOOD OUTLAYS, AND HOUSEHOLD SIZE, BY EXPENDITURE CLASS*



* Based on data in Gold Coast, Off. Govt. Stat. (Stat. and Econ. Papers) *1953 Accra Survey of Household Budgets* (No. 2, December 1953), pp. 10–12; *Kumasi Survey of Population and Household Budgets, 1955* (No. 5, March 1956), pp. 36–37; and *Sekondi-Takoradi Survey of Population and Household Budgets, 1955* (No. 4, March 1956), pp. 32–33. Positioning of data for extreme expenditure classes reflects actual average expenditures; for other classes the midpoint. Figures do not include expenditures on drink.

* Reproduced from T. T. Poleman, The Food Economies of Urban Middle Africa (Cornell Int'l. Agric. Reprint), pp. 145, 155.

GHANA, URBAN HOUSEHOLD BUDGET SURVEY SAMPLES, 1953 AND 1955: PERCENTAGE BREAKDOWN OF FOOD EXPENDITURES, AND THE PER CAPITA MONTHLY FOOD OUTLAYS, BY EXPENDITURE CLASS*



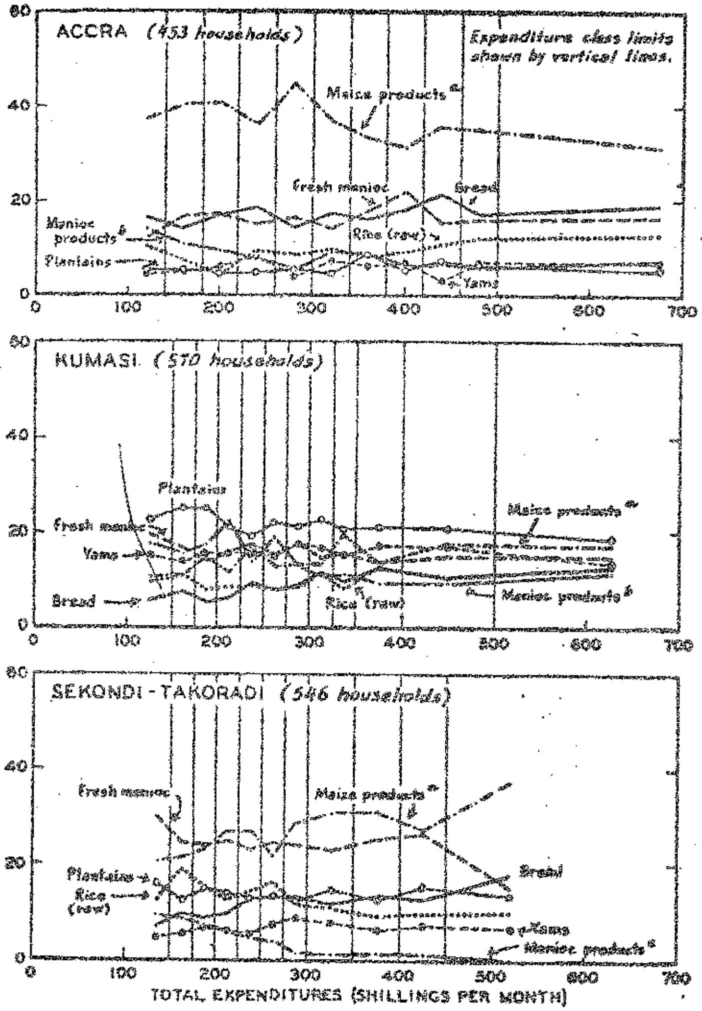
* Based on data in Gold Coast, Off. Govt. Stat. (Stat. and Econ. Papers), *1953 Accra Survey of Household Budgets* (No. 2, December 1953), pp. 10–14; *Kumasi Survey of Population and Household Budgets, 1955* (No. 5, March 1956), pp. 36, 37, 42; *Sekondi-Takoradi Survey of Population and Household Budgets, 1955* (No. 4, March 1956), pp. 32, 33, 38. Positioning of data for extreme expenditure classes reflects actual average expenditures; for other classes the midpoint. Figures do not include expenditures on drink.

[a] A residual figure. In addition to such truly unspecified items as snacks purchased away from home, it includes expenditures for the less important starchy staples, meat and fish items, vegetables, and nuts, fats, and oils. (For Accra, of course, it includes all outlays for items in the latter two groupings.) It is best thought of as being prorated among the major commodity groups.

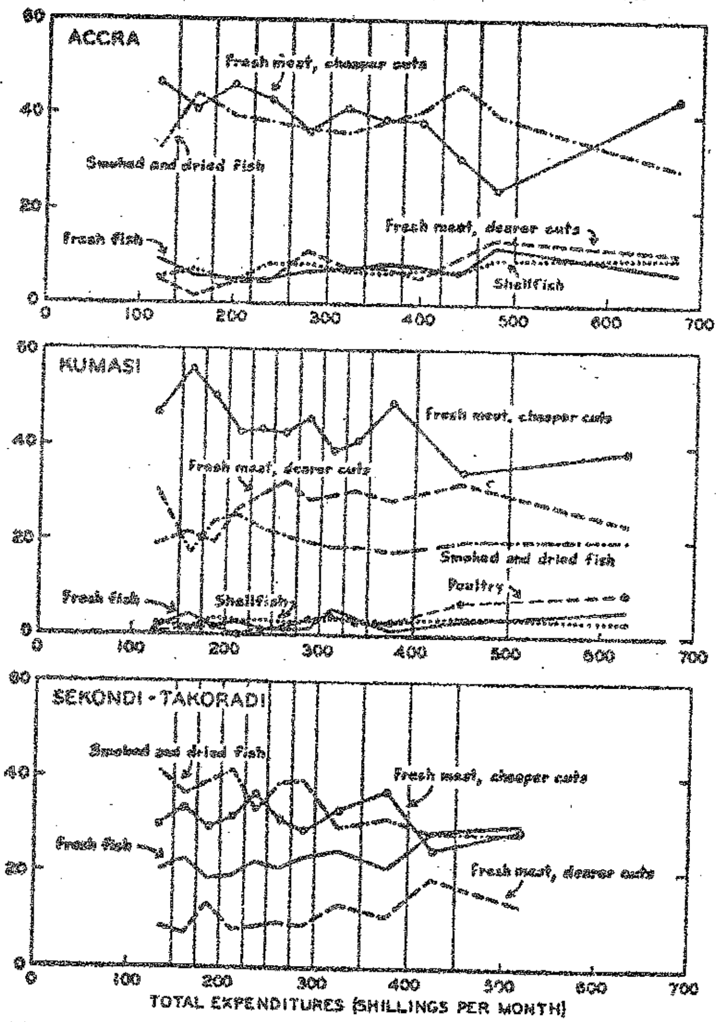
[b] Packaged imported items. It includes such things as sugar and canned meat and milk, but not wheat flour and the like.

CHART 3. TYPICAL BUDGET SURVEY FINDINGS ON FOOD EXPENDITURE BEHAVIOR*

GHANA, URBAN HOUSEHOLD BUDGET SURVEY SAMPLES, 1953 AND 1955: EXPENDITURES FOR SELECTED STARCHY STAPLES AS A PERCENTAGE OF TOTAL OUTLAYS FOR THESE ITEMS, BY EXPENDITURE CLASS *



GHANA, URBAN HOUSEHOLD BUDGET SURVEY SAMPLES, 1953 AND 1955: EXPENDITURES FOR SELECTED MEAT AND FISH PRODUCTS AS A PERCENTAGE OF TOTAL OUTLAYS FOR THESE ITEMS, BY EXPENDITURE CLASS*

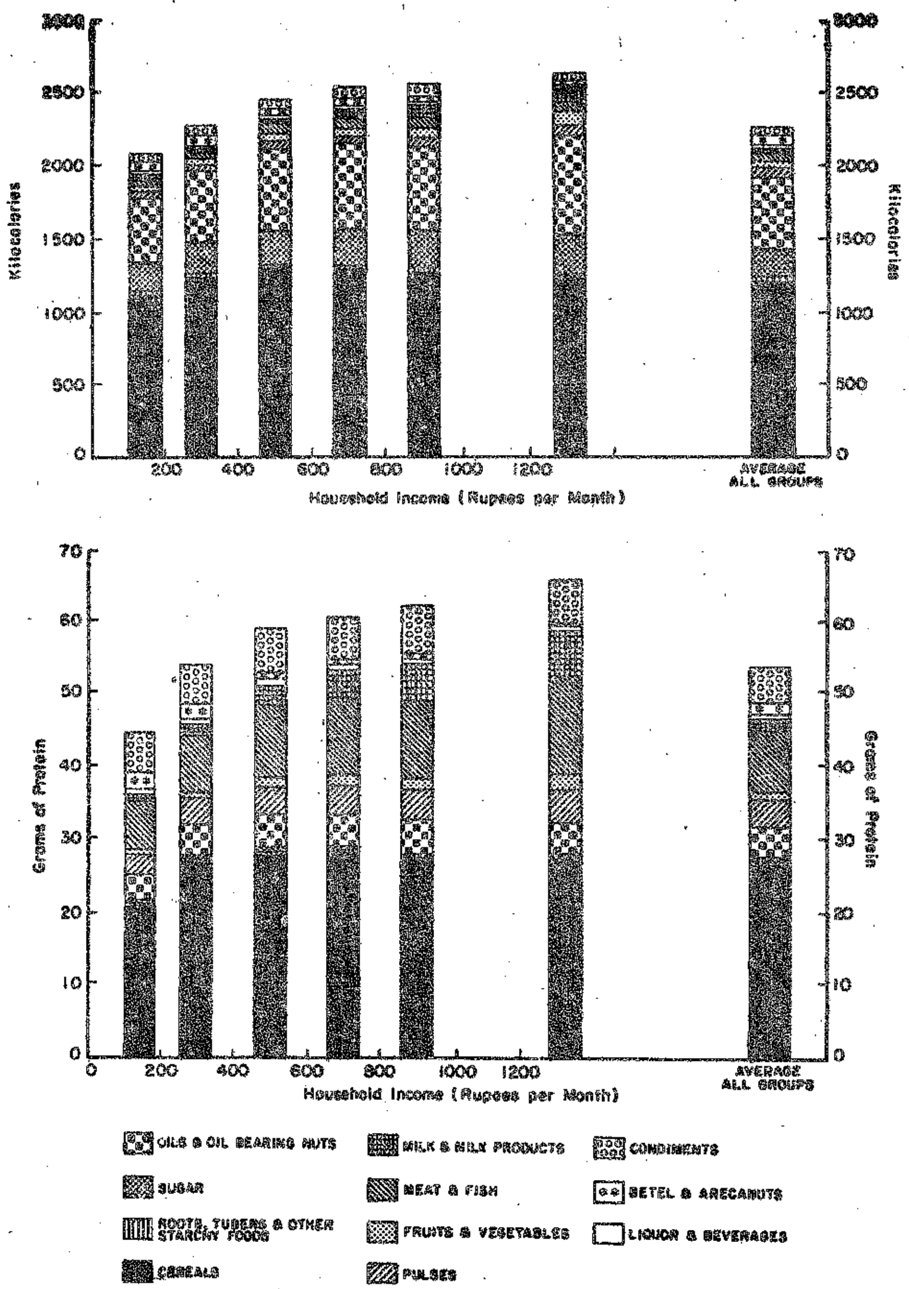


* Based on data in Gold Coast, Off. Govt. Stat. (Stat. and Econ. Papers), *1953 Accra Survey of Household Budgets* (No. 2, December 1953), p. 14; *Kumasi Survey of Population and Household Budgets 1955* (No. 5, March 1956), p. 42; *Sekondi-Takoradi Survey of Population and Household Budgets, 1955* (No. 4, March 1956), p. 38. Positioning of data for extreme expenditure classes reflects actual average expenditures; for other classes the mid-point.

* See source note to Chart 5B.
a Kenkey and dough.
b Gari and kokonte.
c Kokonte.

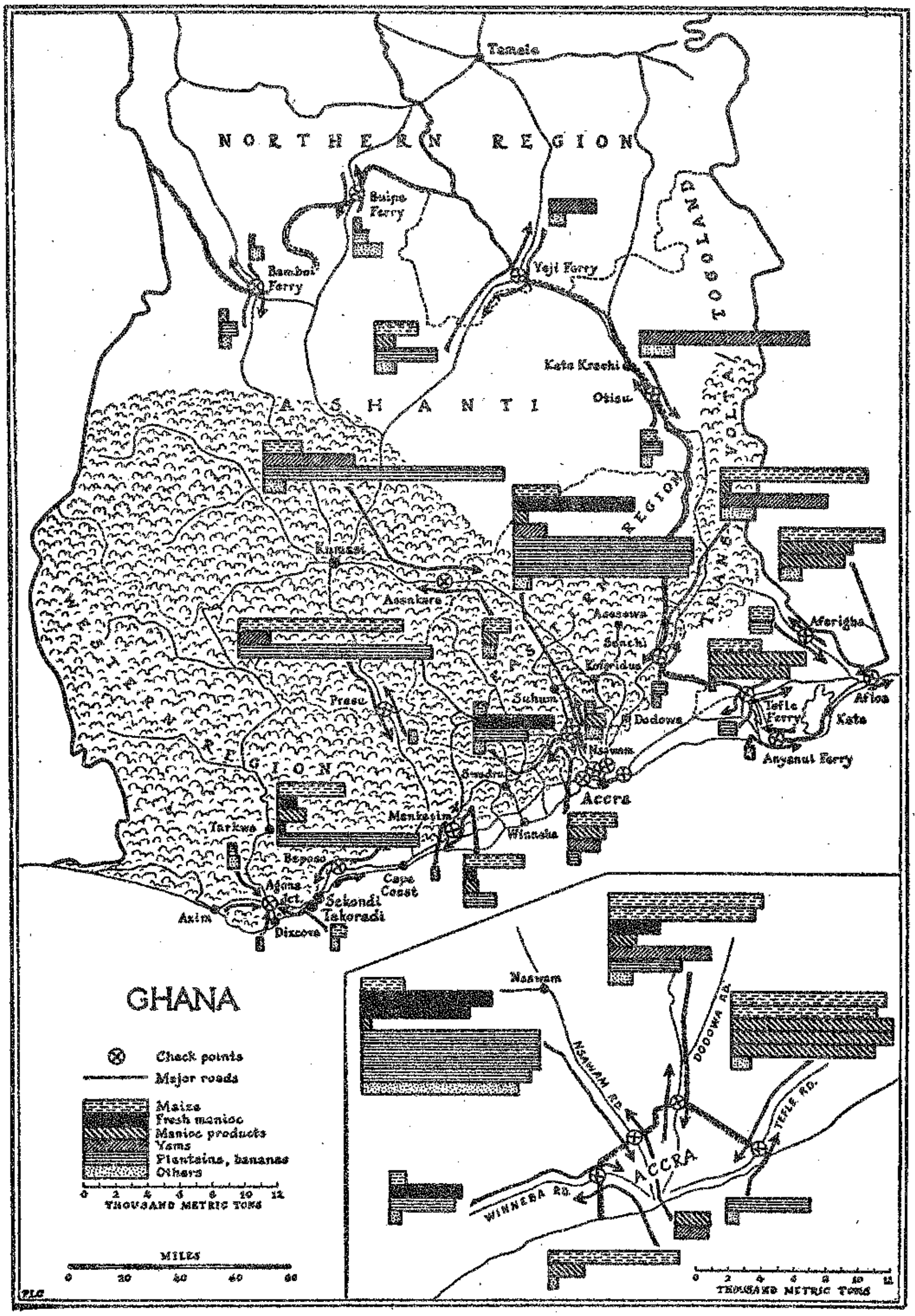
* Reproduced from T. T. Poleman, The Food Economies of Urban Middle Africa (Cornell Int'l. Agr. Reprint), pp. 156-57.

CHART 4. FINDINGS OF NEW TYPE BUDGET SURVEY:
APPARENT PER CAPITA DAILY ENERGY AND PROTEIN AVAILABILITIES
IN SRI LANKA, 1969-70*



* Reproduced from T. T. Poleman, "World Food: A Perspective," Science, 9 May 1975, p. 516.

Chart 5. GHANA, PRODUCE MOVEMENT CENSUS, 1957/58: ANNUAL FLOW OF STAPLE FOODS PASSING THE SEVERAL CHECK POINTS*

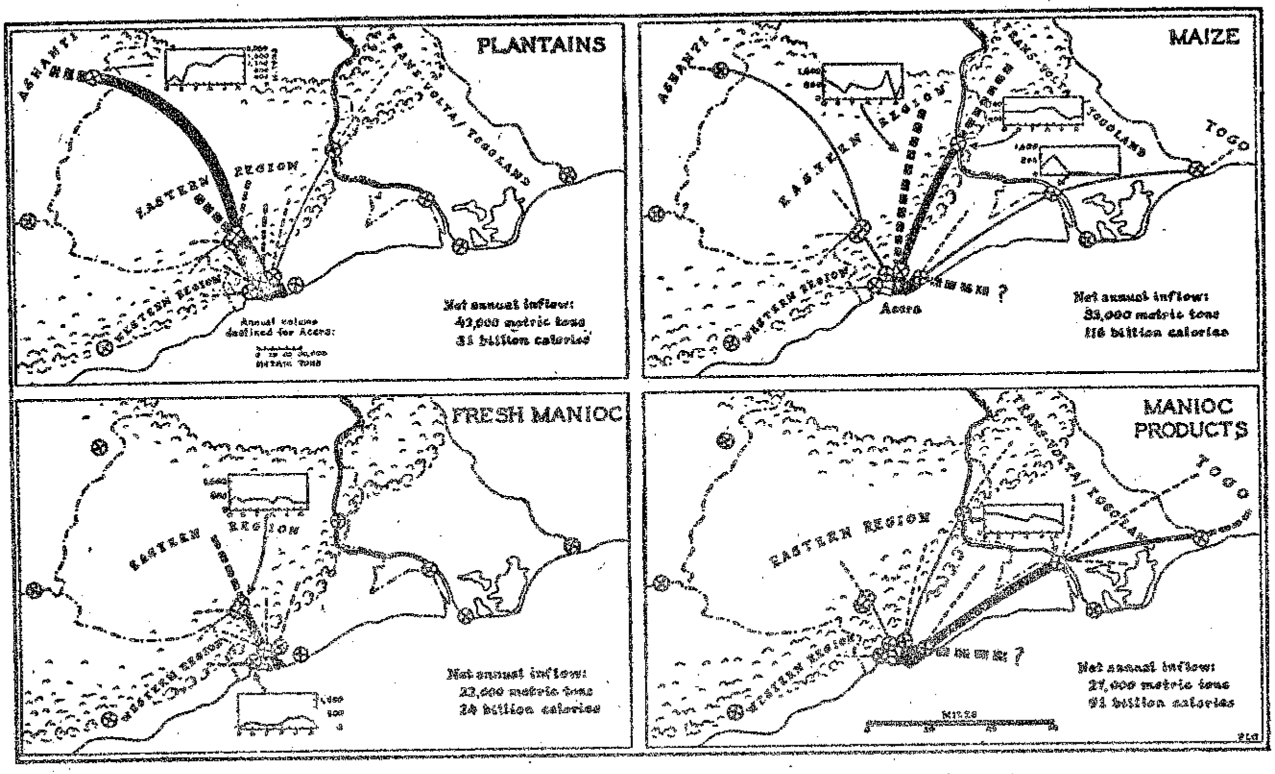


* Based on unpublished returns from the 1957/58 Produce Movement Census. Where data reported other than by weight, tonnages were estimated using the following conversion factors: maize—bag: 220 lbs.; rice—bag: 240 lbs.; millets—bag: 204 lbs.; sorghum—bag: 200 lbs.; manioc products—bag: 150 lbs.; manioc roots—bag: 200 lbs.; cocoyams—bag: 150 lbs.; and yams—tuber: 7 lbs. Factors from Ghana, Off. Govt. Stat., "Distribution Statistics—Produce Movements. . . . Conversion Factors" (n.d., mimeo.).

Movements of less than 400 metric tons not shown.

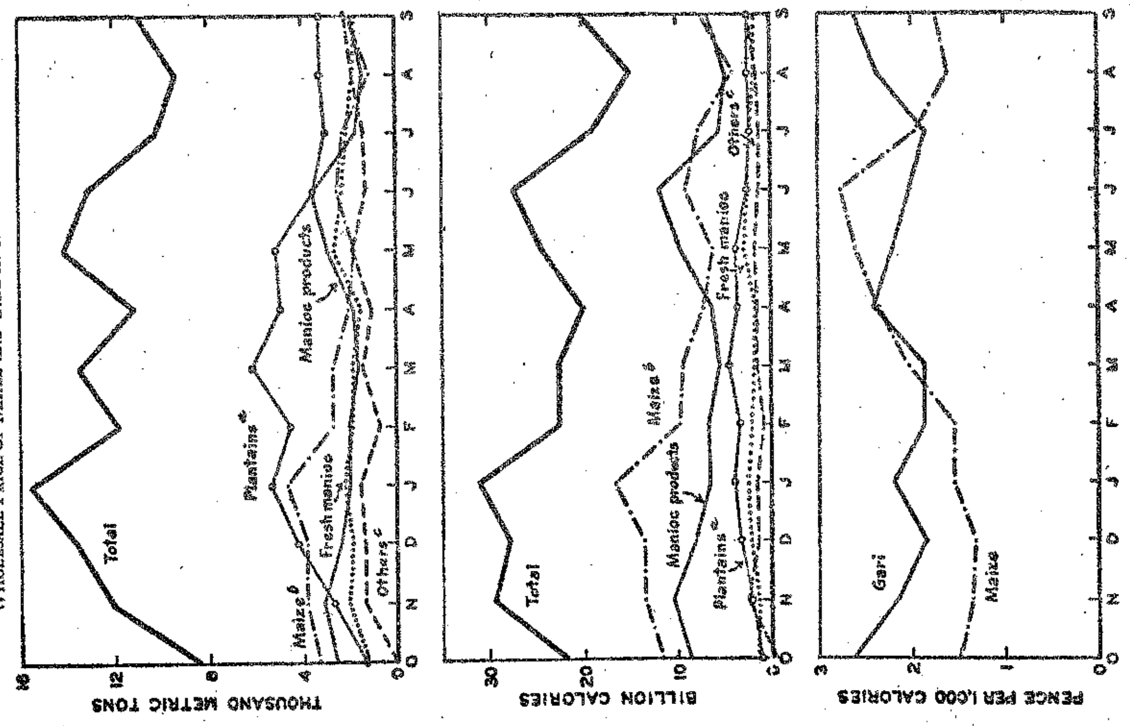
Reproduced from T. T. Poleman, The Food Economies of Urban Middle Africa (Cornell Int'l. Agric. Dev. Reprint), p. 165.

Chart 6. GHANA, PRODUCE MOVEMENT CENSUS, 1957/58: DIRECTION AND ANNUAL MAGNITUDE OF INFLOW OF PRINCIPAL STAPLE FOODS INTO ACCRA*



* Based on unpublished returns from the 1957/58 Produce Movement Census.

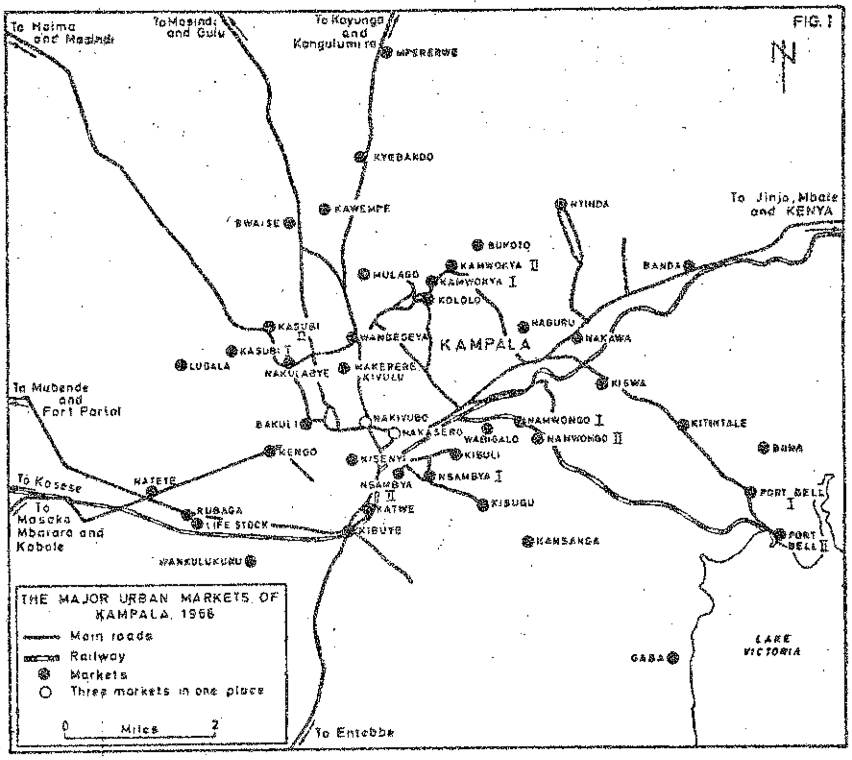
CHART 7. GHANA, PRODUCE MOVEMENT CENSUS, 1957/58: NET MONTHLY INFLOW OF STAPLE FOODS INTO ACCRA; AND AVERAGE MONTHLY WHOLESALE PRICE OF MAIZE AND GARI IN THE ACCRA MARKET*



* Net inflows based on unpublished returns from the 1957/58 Produce Movement Census; price data from Ghana, Dept. Agr., *Monthly Report—Foodstuffs Supply Position* (various issues); caloric values calculated using conversion factors given in FAO, *Food Composition Tables—Minerals and Vitamins—For International Use* (Nutr. Studies 11, 1954), pp. 10–12, 18.
[a] Includes bananas.
[b] Includes sorghum.
[c] Rice, millets, yams, cocoyams, "other cereals," and "other roots and tubers."

Reproduced from T. T. Poleman, The Food Economies of Urban Middle Africa (Cornell Int'l. Agric. Dev. Reprint), pp. 168, 171.

CHART 8. KAMPALA MARKETS MONITORED DURING PRODUCE MOVEMENT CENSUS, 1967/68*



* Reproduced from J. J. Oloya and T. T. Poleman, The Food Supply of Kampala (Makerere Institute of Social Research, July 1972), p. 16.

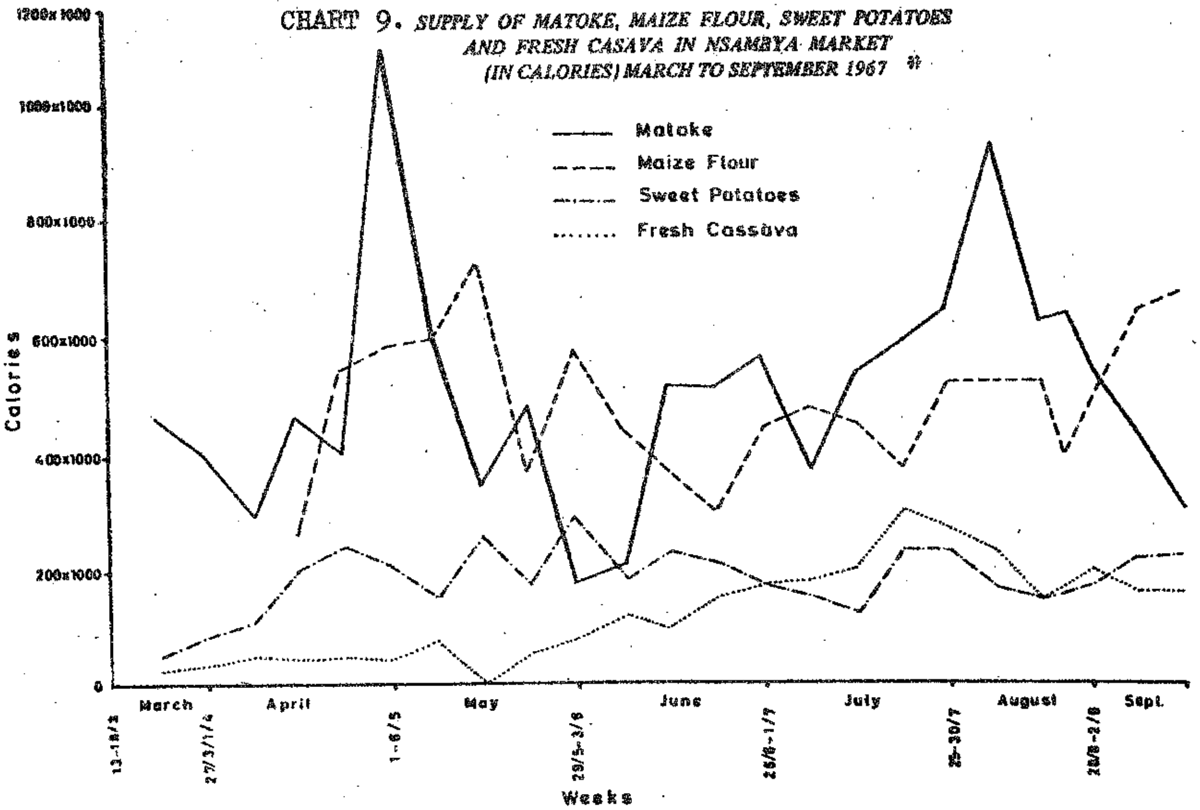
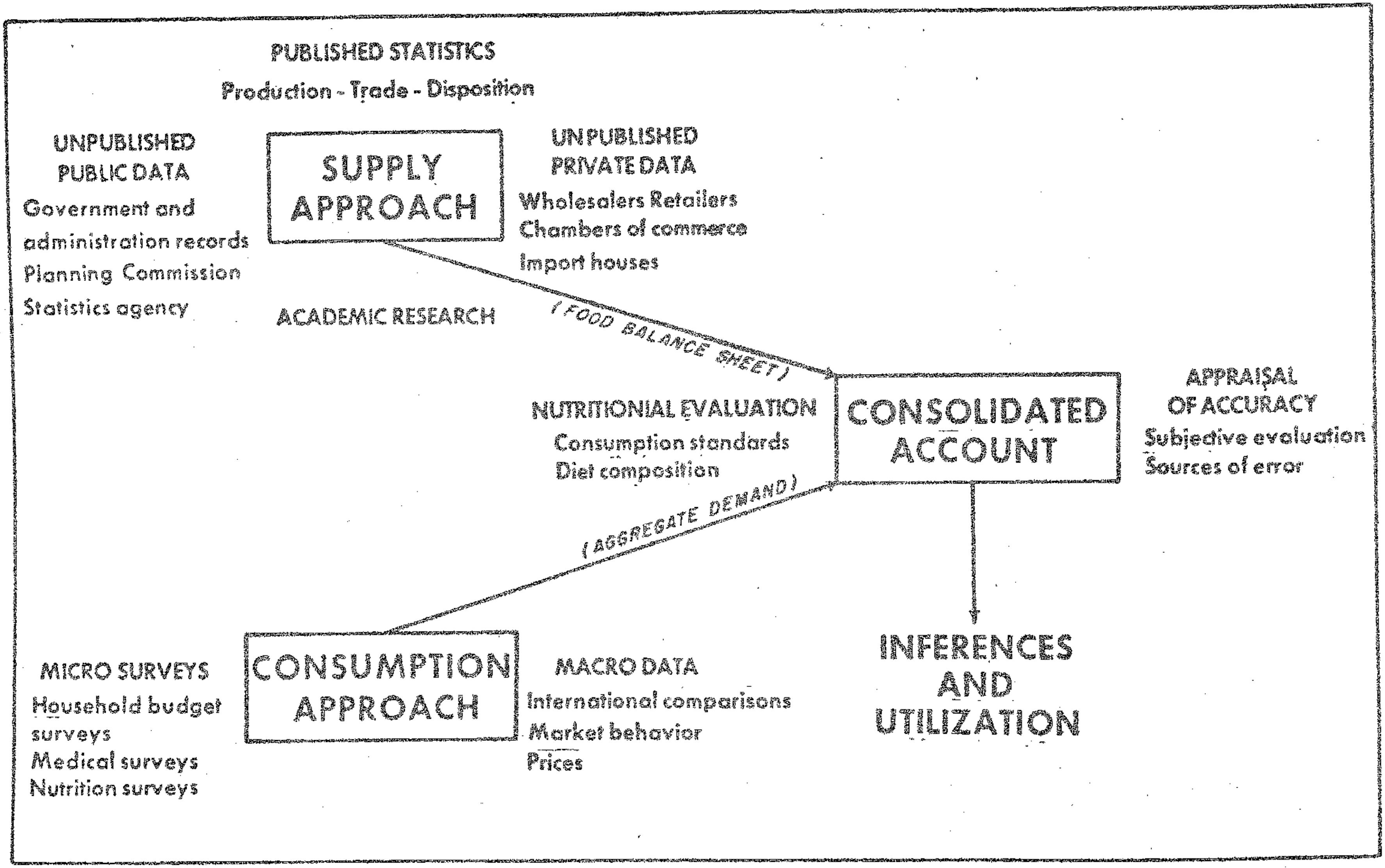


CHART 9. *SUPPLY OF MATOKE, MAIZE FLOUR, SWEET POTATOES AND FRESH CASAVA IN NSAMBYA MARKET (IN CALORIES) MARCH TO SEPTEMBER 1967* *

* Reproduced from J. J. Oloya and T. T. Poleman, The Food Supply of Kampala (Makerere Institute of Social Research, July 1972), p. 38.

CHART 10. THE CROSS-CHECK APPROACH TO NATIONAL FOOD ACCOUNTING*



*Reproduced from M. J. Purvis, "Evaluation and Use of Underdeveloped Agricultural Statistics: The Food Economy of Malaysia" (Cornell Univ., unpublished Ph.D. Dissertation, 1966), p. 4.

Readings on
NATIONAL FOOD ACCOUNTING

1. T. T. Poleman, "Quantifying the Malthusian Dilemma," in Poleman, Beeghly, Matlon, and McGregor, The Economic Applications of Vital-Rate Monitoring (Cornell Int'l. Agric. Dev. Mimeo 38, Nov. 1972).

2. M. J. Schultheis, The Statistics of the World Food Problem: A Review Essay (Cornell Agric. Econ. Staff Paper No. 15, July 1970), pp. 20-28.

3. T. T. Poleman, "Survey on Nutritional Concomitants of Urbanization in Selected Countries of Sub-Saharan Africa" (FAO, 1965) (Reprinted as Cornell Agric. Econ. Staff Paper 73-15, July 1973).

THE FOOD BALANCE SHEET

4. H. C. Farnsworth, "Defects, Uses, and Abuses of National Consumption Data," Food Research Institute Studies, Vol. II, No. 3.

5. T. Jogaratnam and T. T. Poleman, Food in the Economy of Ceylon (Cornell Int'l. Agric. Dev. Bulletin 11, 1969), pp. 1-18.

6. E. B. Simmons and T. T. Poleman, The Food Balance Sheet as a Parameter of Tropical Food Economies: The Case of Mauritius (Cornell Int'l. Agric. Bulletin 29, June 1974), pp. 2-20, 61-73.

7. M. J. Purvis, "Evaluation and Use of Underdeveloped Agricultural Statistics: The Food Economy of Malaysia" (Cornell University, unpublished Ph.D. dissertation, 1966), pp. 62-143 (optional; for the enthusiast only).

THE CONSUMPTION SURVEY

8. T. T. Poleman, "The Food Economies of Urban Middle Africa: The Case of Ghana," Food Research Institute Studies, May 1961, pp. 135-143.

9. T. Jogaratnam and T. T. Poleman, op. cit., pp. 19-37.

10. E. B. Simmons and T. T. Poleman, op. cit., pp. 20-56.

11. M. J. Purvis, op. cit., pp. 144-209 (optional).

12. A. P. den Hartog, "Unequal Distribution of Food Within the Household," Nutrition Newsletter (FAO), Oct.-Dec. 1972, pp. 8-17.

13. FAO, Program of Food Consumption Surveys (Rome, 1964), (optional; on Mann 2-day reserve).

14. FAO, Bibliography of Food Consumption Surveys, 1964 and Supplements, 1965 and 1967 (mimeographed), (optional; on Mann 2-day reserve).

15. FAO, Review of Food Consumption Surveys 1970, Vol. 1A (Rome, 1970), (optional, on Mann 2-day reserve).

ROAD CHECK-CUM-MARKETING SURVEYS

16. T. T. Poleman, op. cit., pp. 161-172.

17. Gold Coast, Office of the Gov't. Stat., Agricultural Statistical Survey of South-East Akim Obuakwa, 1952-3 (Stat. and Econ. Paper No. 1, Sept. 1953).

OTHER TECHNIQUES

18. M. K. Bennett, "The Food Economy of the New England Indians, 1605-75," The Journal of Political Economy, October 1955.

19. D. S. Ferguson, The Nigerian Beef Industry (Conrell Int'l. Agric. Dev. Bulletin 9, 1967). (An optional skim).

CONVERSION FACTORS (These are on Mann 2-day reserve; look at them to become familiar with this type of source.)

20. FAO, Food Composition Tables - Minerals and Vitamins - for International Use (Rome, 1954).

21. USDA, Econ. Res. Ser., Conversion Factors and Weights and Measures for Agricultural Commodities and Their Products (Stat. Bull. No. 362, June 1965).

22. FAO, Food Composition Tables: Annotated Bibliography (Nutrition Information Documents Series 1, Rome, 1969).

23. UN, Statistical Office, World Weights and Measures: Handbook for Statisticians (Stat. Papers Series M, No. 21, Rev. 1, New York, 1966).

24. The Economist, Guide to Weights and Measures (2nd Ed., London, 1962), pp. 53-65.

THE SOCIO-ECONOMIC SURVEY OF CEYLON, 1969-70

QUESTIONNAIRE

The questionnaire reproduced on the following pages was originally printed on 13 X 17-inch sheets. The questionnaire was designed and the survey supervised by Mr. L. N. Perera, then Deputy Director of Statistics, Government of Ceylon. The results of survey remain only partially published, but the data have been tested by various scholars and have yielded a wealth of information about consumer bahavior. Over 8,000 households were surveyed in four rounds, each of three months duration. Between 150 and 250 staff were involved in the project.

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சமூக - பொருளாதார அளவீடு

SOCIO - ECONOMIC SURVEY

For Office use

Sector	District	Census Block	Household No.

I. Location and Identification of Household

District ....

Urban / Rural / Estate ....

D. R. O. Division / Town ....

G. S. Division No., Ward No., Name of Estate ....

Census Block No. ....

Name of head of House hold ....

Address ....

Name of Investigator ....

Period of Investigation ....

II. General Characteristics of members of House hold

Serial No. 1	NAME 2	Relationship to head of House hold 3	Whether present or absent at the time of survey 4	Sex 5	Age - last Birthday 6	Marital status 7	Nationality 8	Race 9	Religion 10	Literacy 11	Level of Education 12	Vocational or Technical training 13	Type of Activity (For persons over 5 years only) 14	Principal occupation or kind of work (For Employed only) 15	Type of economic activity or place of work (For Employed only) 16	Employment status 17	If unemployed whether registered at Exchange 18
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

குறியீடுகள் CODES

Col. 6 - Present or absent
Present 1
Absent 2

Col. 5 Sex
Male 1
Female 2

Col. 7. Marital status
Never married 1
Married 2
Widowed 3
Divorced 4
Separated 5

Col. 8—Nationality
Ceylonese by Descent 1
Ceylonese by Registration 2
Non Ceylonese 3

Col. 9—Race
Sinhalese 1
Ceylon Tamil 2
Indian Tamil 3
Ceylon Moor 4
Malay 5
Burgher 6
Other 7

Col. 10—Religion
Buddhist 1
Hindu 2
Muslim 3
Christian 4
Other 5

Col. 11—Literacy
Literate 1
Illiterate 2

Col. 12- Education
No Schooling 1
Primary Grades 1-5 2
Middle School Grades 6-G.C.E. 3
Passed G.C.E. 4
Passed Adv. G.C.E. or H.S.C. 5
Under Graduate 6
Passed Degree 7
Post Graduate 8

Col. 14- Activity
Employed 1
Unemployed 2
Engaged in own household work 3
Student 4
Retired, old, disabled 5
Too young to work 6
Other 7

Col. 17- Employment Status
Employer 1
Employee 2
Own account worker 3
Unpaid family worker 4

Col. 18 - Whether Registered for Employment
Registered 1
Not Registered 2

III

HOUSING CONDITIONS AND FACILITIES

A Particulars of the house

(a) Does the household occupy

(1) A single house ?	1
(2) Attached house ?	2
(3) A flat ?	3
(4) An annex ?	4
(5) A part of a house with no independent access ?	5
(6) An improvised structure ?	6

(b) Tenure of Accommodation

1. Owner occupied	1
2. Rented	2
3. Free of rent	3
4. Other (specify)	4

(c) No. of rooms occupied by household

(d) Approximate floor area used for living purposes. (sq. ft.)

B Amenities

(a) Source of water for

	Pipe borne water within premises (1)	Pipe borne water outside (street tap) (2)	Well (3)	Tank (4)	River or stream (5)
1. Drinking					
2. Cooking					
3. Bathing					

(b) Toilet facilities

1. Flush toilet	1
2. Bucket system	2
3. Water seal	3
4. Cess pit	4
5. None	5

(c) Main Source of energy for

	Electricity (1)	Gas (2)	Kerosene oil (3)	Firewood (4)	Other (5)
1. Cooking					
2. Lighting					

C Household equipment

1 Cooker	2 Refrigerator	3 Sewing machine	4 Radio receiver	5 Telephone
1 Kerosene	1 Electric	1 Electric	1 Main	1 Yes
2 Gas	2 Kerosene	2 Manual	2 Dry battery	2 No
3 Electric			3 Transistor	
			4 Rediffusion	

IV HEALTH AND VITAL STATISTICS

A Health Statistics

1. How many members of the household, if any, suffered from any illness during the past two weeks

2. If so, state in Each case

(a) Nature of illness

(b) Period of absence from normal duties (No. of days)

(c) Whether treatment was taken (Yes No) (1 for yes/2 for no)

(d) If yes, indicate source of treatment

Ayurvedic (Government) — (Enter 1)

Ayurvedic (Private) — (Enter 2)

Western medicine (Government) — (Enter 3)

Western medicine (Private) — (Enter 4)

(e) State whether treatment was sought as an indoor patient (1) Or outdoor patient (2)

Serial No.		

B Fertility

For married women

	1	2	3
(a) Age at marriage			
(b) Present age			
(c) Number of live births			
(d) Number of living children			
(e) Date of last live birth			
(f) Was there a live birth during the last twelve months (Yes/No) (Enter 1 for yes, 2 for no)			

V RECREATIONAL, CULTURAL AND RELIGIOUS ACTIVITIES

(i) No. of members of the household who are members of:

(a) Sports clubs	
(b) Welfare societies	
(c) Educational and cultural societies	
(d) Religious societies	
(e) Other societies (Specify)	

(ii) How many members of the household, if any, saw a film or a theatrical or cultural show at least once during the preceding month ?

(iii) Does any member of the household subscribe regularly to a newspaper, magazine, journal or periodical ?

Yes 1	No 2

If yes, please state whether

	S 1	T 2	E 3
1. Daily newspaper			
2. Weekly publication			
3. Monthly, quarterly or annual publication			

VI AVERAGE MONTHLY INCOME OF HOUSEHOLD (RUPEES)

A Money income

Income receiver — Serial No	For office use		Wages, salaries and related receipts (a)	Profit from business enterprises or farm (including self employment) (b)	Income from rents, dividends, interest etc. (c)	Pensions, remittances and cash allowances received from outside household (d)	Other periodic cash receipts (e)	Total

B Non-monetary household income

1. Goods and services provided free by employers or received free from other sources

	Value (Rs.)	
(a) Food		
(b) Clothing		
(c) Housing		
(d) Other		

2. Goods produced by household enterprise or self employed household member, consumed by the household

	Unit	Quantity	Value (Rs.)	
(a) Paddy				
(b) Other cereals				
(c) Coconuts				
(d) Vegetables and Fruits				
(e) Eggs				
(f) Milk				
(g) Fish				
(h) Firewood				
(i) Other household goods				

3. Net rental value of owner occupied household unit

Total

Total monetary & Non-monetary income ....

VII DAILY CONSUMPTION EXPENDITURE ON FOOD, DRINK AND TOBACCO

Item	Code	Unit	1st day Qty	1st day Rs	1st day Cts	2nd day Qty	2nd day Rs	2nd day Cts	3rd day Qty	3rd day Rs	3rd day Cts	4th day Qty	4th day Rs	4th day Cts	5th day Qty	5th day Rs	5th day Cts	6th day Qty	6th day Rs	6th day Cts	7th day Qty	7th day Rs	7th day Cts	Total Qty	Total Rs	Total Cts	Remarks
1. FOOD AND DRINK — 01																											
(a) Cereals and cereal preparations 00																											
Rice 000																											
(i) Rationed	0000	lb.																									
(ii) Outside ration	0001	"																									
Wheat flour 001	0010	"																									
Other grains 002		"																									
(i) Kurakkan	0020	"																									
(ii) Maize	0021	"																									
(iii) Other	0022	"																									
Bakery products 003																											
(i) Bread	0030	"																									
(ii) Buns	0031	No.																									
(iii) Rusks	0032	"																									
(iv) Cake	0033	"																									
(v) Other	0034	"																									
Other cereal products 004	0040																										
Cereal preparations bought outside and consumed in the home 005	0050																										
Total																											
(b) Condiments—01/08																											
(i) Chillies 010 Dried	0100	lb.																									
Green	0101	"																									
(ii) Onions 011 Red	0110	"																									
Bombay	0111	"																									
(iii) Salt	0120	"																									
(iv) Pepper	0130	"																									
(v) Garlic	0140	"																									
(vi) Cummin seed	0150	"																									
(vii) Mathe seed	0160	"																									
(viii) Mustard	0170	"																									
(ix) Coriander	0180	"																									
(x) Limes	0190	"																									
(xi) Tamarind	0200	"																									
(xii) Maldive fish	0210	"																									
(xiii) Vinegar	0220	Bottle																									
(xiv) Sauce	0230	"																									
(xv) Other	0240	lb.																									
Total																											

Item	Code	Unit	1st Day Qty	1st Day Rs.	1st Day Cts.	2nd Day Qty	2nd Day Rs.	2nd Day Cts.	3rd Day Qty	3rd Day Rs.	3rd Day Cts.	4th Day Qty	4th Day Rs.	4th Day Cts.	5th Day Qty	5th Day Rs.	5th Day Cts.	6th Day Qty	6th Day Rs.	6th Day Cts.	7th Day Qty	7th Day Rs.	7th Day Cts.	Total Qty	Total Rs.	Total Cts.	Remarks
(c) Pulses 03																											
(i) Dhal	0300	lb.																									
(ii) Green gram	0310	,,																									
(iii) Other	0320	,,																									
Total																											
(d) Vegetables —04/05/06/07																											
(i) Ash plantains	0400	lb.																									
(ii) Brinjals	0410	,,																									
(iii) Bandakka	0420	,,																									
(iv) Cucumber	0430	,,																									
(v) Red pumpkin	0440	,,																									
(vi) Ashpumpkin	0450	,,																									
(vii) Snake gourd	0460	,,																									
(viii) Bitter gourd	0470	,,																									
(ix) Veraluolu	0480	,,																									
(x) Kohila yams	0490	,,																									
(xi) Jak	0500																										
(xii) Bread fruit	0510	No																									
(xiii) Drumstick	0520	lb.																									
(xiv) Kankun	0530																										
(xv) Mukunuwenna	0540																										
(xvi) Gotukola	0550																										
(xvii) Sarana	0560																										
(xviii) Thampala	0570																										
(xix) Niviti	0580																										
(xx) Kohila leaves	0590																										
(xxi) Tomatoes	0600	lb.																									
(xxii) Cabbage	0610	,,																									
(xxiii) Carrots	0620	,,																									
(xxiv) Beetroot	0630	,,																									
(xxv) Raddish	0640	,,																									
(xxvi) Beans	0650	,,																									
(xxvii) Leeks	0660	,,																									
(xxviii) Potatoes	0670	,,																									
(xxix) Sweet potatoes	0680	,,																									
(xxx) Manioc	0690	,,																									
(xxxi) Other yams	0700	,,																									
(xxxii) Other vegetables	0710	,,																									
Total																											

Item	Code	Units	1st Day Qty.	1st Day Rs.	1st Day cts.	2nd Day Qty.	2nd Day Rs.	2nd Day cts.	3rd Day Qty.	3rd Day Rs.	3rd Day cts.	4th Day Qty.	4th Day Rs.	4th Day cts.	5th day Qty.	5th day Rs.	5th day cts.	6th Day Qty.	6th Day Rs.	6th Day cts.	7th Day Qty.	7th Day Rs.	7th Day cts.	TOTAL Qty.	TOTAL Rs.	TOTAL cts.	Remarks
(e) [illegible] Fruits and Nuts —08—																											
(i) [illegible] Fresh Fruits 080																											
1. [illegible] Plantains	0800	[illegible] No																									
2. [illegible] Papaws	0801	,,																									
3. [illegible] Pineapple	0802	,,																									
4. [illegible] Oranges	0803	,,																									
5. [illegible] Mangoes	0804	,,																									
6. [illegible] Other	0805	,,																									
(ii) [illegible] Dried Fruits 081	0810	[illegible] lb																									
(iii) [illegible] Canned Fruit	0820	,,																									
(iv) [illegible] Coconut	0830	[illegible] No																									
(v) [illegible] Ground Nuts	0840	[illegible] lb																									
(vi) [illegible] Other Nuts	0850	[illegible] lb																									
TOTAL																											
(f) [illegible] Meat —09—																											
(i) [illegible] Beef	0900	[illegible] lb																									
(ii) [illegible] Mutton	0910	,,																									
(iii) [illegible] Pork	0920	,,																									
(iv) [illegible] Poultry	0930	,,																									
(v) [illegible] Canned Meat	0940	,,																									
(vi) [illegible] Other Meat Products	0950	,,																									
TOTAL		,,																									
(g) [illegible] Fish —10—																											
(i) [illegible] Fresh 100																											
[illegible] Large	1000	[illegible] lb																									
[illegible] Small	1001	,,																									
(ii) [illegible] Dried 101	1010	,,																									
(iii) [illegible] Preserved	1020	,,																									
(iv) [illegible] Canned	1030	,,																									
TOTAL		,,																									
(h) [illegible] Milk, Milk Products & Eggs —11—																											
(i) [illegible] Fresh Milk	1100	[illegible]																									
(ii) [illegible] Milk Powder	1110	[illegible] lb																									
(iii) [illegible] Milk Foods	1120	[illegible] lb																									
(iv) [illegible] Condensed Milk	1130	[illegible] No																									
(v) [illegible] Curd & Yoghurt	1140																										
(vi) [illegible] Cheese	1150	[illegible] lb																									
(vii) [illegible] Eggs	1160	[illegible] No																									
TOTAL																											

	Code	Unit	1st Day Qty	1st Day Rs.	1st Day Cts.	2nd Day Qty	2nd Day Rs.	2nd Day Cts.	3rd Day Qty	3rd Day Rs.	3rd Day Cts.	4th Day Qty	4th Day Rs.	4th Day Cts.	5th Day Qty	5th Day Rs.	5th Day Cts.	6th Day Qty	6th Day Rs.	6th Day Cts.	7th Day Qty	7th Day Rs.	7th Day Cts.	Total Qty	Total Rs.	Total Cts.	Remarks
(i) Oils and Fats-12																											
(i) Coconut oil...	1200	[illegible]																									
(ii) Gingelly oil ...	1210	..																									
(iii) Butter ...	1220	[illegible]																									
(iv) Margarine ...	1230	..																									
(v) Other ...	1240	..																									
Total...																											
(j) Beverages (Non-alcoholic) 13																											
(i) Tea ...	1300	[illegible]																									
(ii) Coffee ...	1310	..																									
(iii) Mineral waters & soft drinks ...	1320	[illegible]																									
(iv) Other beverages ...	1330	..																									
Total...																											
(k) Sugar, preserves and confectionary 14																											
(i) Sugar...	1400	[illegible]																									
(ii) Jaggery ...	1410	..																									
(iii) Treacle & Honey	1420	[illegible]																									
(iv) Jams & Jellies ...	1430	..																									
(v) Ice cream...	1440																										
(vi) Chocolates, Toffees & Sweets ...	1450	[illegible]																									
(vii) Biscuits ...	1460	..																									
(viii) Other ...	1470	..																									
Total...																											
(l) Meals and snacks purchased and consumed away from home 15																											
(i) Rice and Curry	1500																										
(ii) Bread and Curry ...	1510																										
(iii) Other meals ...	1520																										
(iv) Snacks ...	1530																										
(v) Tea ...	1540																										
(vi) Soft drinks...	1550																										
(vii) Other beverages	1560																										
Total...																											
Total...																											

Item	Code	Unit	1st Day Qty.	1st Day Rs.	1st Day cts.	2nd Day Qty.	2nd Day Rs.	2nd Day cts.	3rd Day Qty.	3rd Day Rs.	3rd Day cts.	4th Day Qty.	4th Day Rs.	4th Day cts.	5th Day Qty.	5th Day Rs.	5th Day cts.	6th Day Qty.	6th Day Rs.	6th Day cts.	7th Day Qty.	7th Day Rs.	7th Day cts.	TOTAL Qty.	TOTAL Rs.	TOTAL cts.	Remarks
11 Liquor and Tobacco—2																											
(a) Liquor—20																											
(i) Toddy	2000	Gal. Bo.																									
(ii) Arrack	2010	"																									
(iii) Beer & Stout	2020	"																									
(iv) Whisky/Brandy	2030	"																									
(v) Gin	2040	"																									
(vi) Wines	2050	"																									
(vii) Other Spirits	2060	"																									
TOTAL																											
(b) Tobacco—21																											
(i) Cigarettes	2100	No.																									
(ii) Cigars	2110	"																									
(iii) Beedi	2120	"																									
(iv) Pipe Tobacco	2130	"																									
(v) Chewing Tobacco	2140	"																									
TOTAL																											
(c) Betel and Arecanuts—22																											
(i) Betel	2200	No.																									
(ii) Arecanuts	2210	"																									
(iii) Chew of Betel	2220	"																									
TOTAL																											
GROUP TOTAL (a+b+c)																											

VIII HOUSEHOLD EXPENDITURE ON OTHER NON-DURABLE GOODS AND SERVICES

During the Preceding Month

Item	Code	Rs.	cts.
III Housing — 3			
(i) வாடகை Rent	3000		
(ii) வரி Rates	3100		
(iii) பேணுதலும் திருத்தங்களும் Maintenance and Repairs	3200		
மொத்தம் Total			
IV எரிபொருளும் வெளிச்சமும் Fuel and Light — 4			
(i) மின்சாரம் Electricity	4000		
(ii) வாயு Gas	4100		
(iii) மண்ணெண்ணெய் Kerosene	4200		
(iv) விறகு Firewood	4300		
(v) மெழுகுதிரி Candles	4400		
(vi) டோர்ச் பட்டரிகள் Torch Cells	4500		
(vii) தீப்பெட்டி Matches	4600		
மொத்தம் Total			
V Clothing, Household Textiles, Footwear and Other Personal Effects — 5			
(a) உடை Clothing — 50			
1. Ready Made Garments — 500			
(i) Trousers (Long & Short)	5000		
(ii) Shirts	5001		
(iii) Sarongs	5002		
(iv) Verties	5003		
(v) Banians & Vests	5004		
(vi) Sarees	5005		
(vii) Skirts & Blouses	5006		
(viii) Frocks (Including School Uniforms)	5007		
(ix) Other	5008		
2. Yardage Material — 501			
(i) Suiting	5010		
(ii) Shirting	5011		
(iii) Long Cloth	5012		
(iv) Poplin	5013		
(v) Printed Fabrics	5014		
(vi) Saree Materials	5015		
(vii) Silk and art Silk Materials	5016		
(viii) Other	5017		
3. Tailoring Charges — 502	5020		
மொத்தம் Total			
(b) House Hold Textiles — 51			
(i) Towels	5100		
(ii) Sheetings	5110		
(iii) Pillow Cases	5120		
(iv) Furnishing Material	5130		
(v) Other	5140		

Item	Code	Rs.	cts.
(c) Footwear — 52			
(i) Boots & Shoes	5200		
(ii) Sandals and Slippers	5210		
(iii) Repairs	5220		
மொத்தம் Total			
(d) Other Personal Effects — 53			
(i) Umbrellas	5300		
(ii) Raincoats	5310		
(iii) Hand Bags	5320		
(iv) Suit Cases	5330		
(v) Others	5340		
மொத்தம் Total			
VI Household Operation — 6			
(a) Non-Durable household Goods — 60			
(i) Washing Soap	6000		
(ii) Detergents & Disinfectants	6010		
(iii) Polishes & Paints	6020		
(iv) Rope, String, Twine & Thread	6030		
(v) Other	6040		
மொத்தம் Total			
(b) Semi-Durable household Goods — 61/62			
(i) Cups and Saucers	6100		
(ii) Plates and Dishes	6110		
(iii) Glass ware	6120		
(iv) Plastic ware	6130		
(v) Cutlery	6140		
(vi) Buckets and Basins	6150		
(vii) Pots and Pans	6160		
(viii) Other Kitchen Utensils	6170		
(ix) Lamp Shades	6180		
(x) Mantles and Wicks	6190		
(xi) Electric Bulbs	6200		
(xii) Brooms and Brushes	6210		
(xiii) Baskets and Bags	6220		
(xiv) Torches	6230		
(xv) Thermos Flasks	6240		
(xvi) Toys	6250		
(xvii) Other	6260		
மொத்தம் Total			
(c) Household Services — 63			
(i) Remuneration to Servants and Chauffers	6300		
(ii) Laundry	6310		
(iii) Payments for other Household Services	6320		
மொத்தம் Total			

Item	Code	Rs.	Cts.
(VII) Personal care and health expenses — 7			
(a) Personal care — 70			
(i) Toilet soap	7000		
(ii) Tooth paste	7010		
(iii) Tooth brushes	7020		
(iv) Shavers and blades	7030		
(v) Powder	7040		
(vi) Cream	7050		
(vii) Polishes	7060		
(viii) Perfumes	7070		
(ix) Hair dressing	7080		
(x) Other	7090		
Total			
(b) Health expenses — 71			
(i) Fees to private medical practicioners dentists etc (including cost of drugs where applicable)	7100		
(ii) Consultation fees to specialists	7110		
(iii) Payments to medical and dental laboratories for tests, analyses etc.	7120		
(iv) Payments to private hospitals & nursing ...	7130		
(v) Purchase of medical & pharmaceutical products	7140		
(vi) Fees to ayurvedic physicians (including cost of medicine)	7150		
(vii) Other	7160		
Total			
(VIII) Transport and communication — 8			
(a) Public transport — 80			
(i) Train	8000		
(ii) Bus	8010		
(iii) Taxi and hiring cars	8020		
(iv) Ships and airlines	8030		
(v) Other	8040		
Total			
(b) Maintenance of private vehicles — 81			
(i) Petrol and oil	8100		
(ii) Tyres and tubes	8110		
(iii) Repair charges including cost of spare parts and accessaries	8120		
(iv) Licence fees and insurance	8130		

Item	Code	Rs.	Cts.
(c) Communication — 82			
(i) Post and telegraph services	8200		
(ii) Telephone charges (including rent)	8210		
Total			
(IX) Recreation, entertainment, education and cultural acticities — 9			
(a) Recreation and entertainment — 90			
(i) Cinema and theatre	9000		
(ii) Sports	9010		
(iii) Fees to instructors, art, music, dancing etc.	9020		
(iv) Excursions including pilgrimages	9030		
(v) Books, newspapers magazines etc	9040		
(vi) Operation & maintenance of radio receiver	9050		
Total			
(b) Education — 91			
(i) School fees	9100		
(ii) School text books	9110		
(iii) Tution fees	9120		
(iv) Boarding fees	9130		
(v) Stationery and equipment	9140		
(vi) Other	9150		
Total			
(X) Miscellaneous — X			
(i) Trade union & other professional contributions	X000		
(ii) Litigation	X100		
(iii) Interest on consumer debt	X200		
(iv) Gifts & donations	X300		
(v) Expenses on family weddings, births, funerals, and other social and ceremonial expenses	X400		
Total			

IX HOUSE HOLD EXPENDITURE ON CONSUMER DURABLES

Y. O/Y. I

During the Preceding Year

Consumer Durables	Code	Rs.	cts.
1. Furniture	Y 000		
2. Rugs and Carpets	Y 010		
3. Cookers (i) Kerosene	Y 020		
(ii) Gas	Y 021		
(iii) Electric	Y 022		
4. Cooking Appliances			
(i) Stoves, Ovens, and Hotplates	Y 030		
(ii) Mixers Grinders Beaters	Y 031		
(iii) Others	Y 032		
5. Irons and Heaters	Y 040		
6. Refrigerators	Y 050		
7. Lamps	Y 060		
8. Ceiling and Table Fans	Y 070		
9. Sewing Machines	Y 080		
10. Radio, Radiograms, Record Players and Tape Recorders	Y 090		
11. Musical Instruments	Y 100		
12. Bicycles and Tricycles	Y 110		
13. Motor Cycles and Scooters	Y 120		
14. Motor Cars			
(i) New	Y 130		
(ii) Second-Hand	Y 131		
15. Baby Carriages	Y 140		
16. Gardening Tools and Equipment	Y 150		
17. Cameras and Projectors	Y 160		
18. Clocks and Watches	Y 170		
19. Jewelleries	Y 180		
20. Other	Y 190		
Total Annual Expenditure on Consumer Durables			