



REPUBLIC OF KENYA

SOURCES AND METHODS USED FOR THE NATIONAL ACCOUNTS OF KENYA

**CENTRAL BUREAU OF STATISTICS
MINISTRY OF FINANCE AND PLANNING**

C O R R I G E N D U M

SOURCES AND METHODS USED FOR THE NATIONAL ACCOUNTS OF KENYA

Chapter 18

Paragraph Page 122; Last sentence to read-
"It is the difference between gross domestic
product at market prices and the sum of gross
capital formation, public consumption, and exports
of goods and services minus imports of goods and
services."

Paragraph 8, Page Second sentence to read-
"Constant price estimates of imports of goods and
services and exports of goods and services are
derived by deflating the current price estimates
with the Impott Price Index and the Export Price
Index."

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FOREWORD

The last report on the methods and sources used for the national accounts of Kenya was published in 1959. In the interim period, the scope of national accounts has broadened considerably, Both in its international context and in its specific reference to Kenya.

The United Nations have adopted a system of national accounts which has added new dimensions to national accounting. This system has been defined in the United Nations manual, "A System of National Accounts". The national accounting methodology adopted by Kenya and described in this report follows by and large the recommendations in the United Nations manual.

While the United Nations System of National Accounts was being deliberated upon, steps were being taken in Kenya to establish the statistical data required to compile the national accounts on this new basis. Since this entailed making significant changes to Kenya's national accounts, it was not possible to publish a new "sources and methods" report until these changes had been made. Hence the delay in the publication of this new report on sources and methods.

However, national accounting methods can never remain unchanged since the requirements for national accounts and the sources of data available are bound to change continually. Nevertheless, the methods recommended in the United Nations manual and detailed in this report will not change significantly in the foreseeable future either in structure or in concept.

Kenya has not yet developed the full system of national accounts specified in the United Nations manual. Emphasis has been given to developing a comprehensive coverage of production and its disposal. Other associated accounts will, it is hoped, be developed in due course as more extensive data become available.

The Kenya Government has received, over an extended number of years, technical assistance from the United Nations. This assistance has helped in establishing a system of collecting basic statistics and in formulating national

accounting methods. It is gratefully acknowledged.

The support given by the Development Centre of the Organisation for Economic Co-operation and Development in preparing the report for printing and the grant provided by the Swiss Government to finance its publication are also much appreciated.

Parmeet Singh
DIRECTOR OF STATISTICS

Chapter 1

INTRODUCTION

Purpose of the Report

1. This publication describes the sources and methods used for the current series of national accounts estimates for Kenya. This series, the fourth, was introduced in 1976(1). The base year for the series is 1972. A brief history of national accounting in Kenya is given in Appendix 1.

2. The last methods report was published in 1959(2) and referred to the 1954-1966 series. No methods report was prepared for the 1964-1974 series, although some papers on various aspects of the accounts were published(3).

3. Publishing a methods report serves a number of purposes:

- It acquaints users, both in and outside the Central Bureau of Statistics, with details on methods being used to compile national accounts. The users are therefore in a better position to judge the quality of the published estimates. This is an important consideration since the estimates are no longer used just to assess the performance and structure

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- (1) Economic Survey 1976. Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, June 1976.
 - (2) Domestic Income and Product in Kenya (A Description of Sources and Methods with Revised Calculations from 1954 to 1958), East African Statistical Department, Nairobi, September 1959.
 - (3) Such as the following papers prepared by P. Singh for study sessions on national accounts organized by the OECD Development Centre:
 - Non-Monetary Production in the Kenya National Accounts, Paris 1970.
 - Production Calculations of the Monetary Sector in the National Accounts of Kenya, Paris 1970.
 - Treatment of the East African Community in the Production and Balance of Payments Accounts of Kenya, Paris 1970.
 - Capital Formation Calculations: Kenya Methodology and Shortcomings. Paris 1974.

of the economy, but are also increasingly being used as major sources of inputs into various planning models. It is desirable, therefore, that the users become better acquainted with the limitations of the estimates.

- It helps to ensure continuity of method within the Central Bureau of Statistics and thereby it assures the comparability of the estimates over time.
- It assists with harmonization of the national accounting methods used by the partner states in the East African Community.
- It causes all the existing methods to be critically reviewed within the Central Bureau of Statistics. In certain cases this has led to more refined methods being introduced.

4. National accounting methods have changed substantially and continually over the years. Much more information is now available than, say, five years ago. In particular, the Integrated Rural Survey now being undertaken annually provides valuable new information on both the monetary and traditional production of the agriculture sector. The new information has enabled new methods to be adopted and more soundly based accounts to be prepared. Because of these and other recent changes, the present seems an appropriate time to record in detail the methods currently in use.

5. Although it is believed that national accounting in Kenya compares very favourably with that in other developing countries, there is still much scope for improvement. Some of the estimates are undeniably weak. However, the Central Bureau of Statistics has embarked upon a very ambitious programme of sample surveys⁽⁴⁾ which will provide valuable new information for national accounting purposes. The availability of new information will lead to changes in the methods outlined in this report. As such changes in methods are made, they will be stated in future issues of the annual report on national accounts referred to in Chapter 2.

Layout of Report

6. The layout of the report is relatively straightforward. After Chapter 2, which provides the general background material required to understand the framework of accounts, the next fifteen chapters are structured so as to coincide with the three principal accounts prepared for Kenya:

(4) See the National Integrated Sample Survey Programme Phase 1; October 1974 - August 1979, Central Bureau of Statistics, Nairobi, October 1975.

- Chapters 3 to 15 give the sources and methods employed when estimating value added for the thirteen major economic activities which appear in the production account - although Chapter 15 deals with general government as well as producers of government services. Both current price estimates and constant price estimates are discussed.
- Chapter 16 describes the basis for the current price estimates of gross fixed capital formation and change in stocks, and explains their deflation to constant prices.
- Chapter 17 relates how the various aggregates which go to make up the external accounts are derived.

Accounts, other than the three just mentioned, such as the use of resources account and the investment account are covered in Chapter 18. The final chapter, Chapter 19, describes briefly the developments which the Central Bureau of Statistics has initiated so as to improve the coverage, scope and relevance of the national accounts.

7. The report also has nine appendices. These appendices do not require to be elaborated upon here. They are adequately referred to in the text and, as can be seen from the Table of Contents, their titles are self-explanatory. Nevertheless, specific mention should be made of Appendix 2. This appendix presents numerically the structure and the composition of the three main accounts dealt with in Chapters 3 to 17. Furthermore, it illustrates the relationship between these accounts and the remaining accounts covered in Chapter 18.

Chapter 2

FRAMEWORK OF ACCOUNTS

General Approach

1. The definitions and concepts-used in the national accounts compiled by the Central Bureau of Statistics are with certain departures, those stated in the United Nations System of National Accounts (SNA) manual(1). The principal aggregates in Kenya's national accounts are:

- gross national product,
- gross output,
- gross domestic product,
- gross capital formation,
- public consumption,
- private consumption.

Estimates of gross domestic product are derived from a production account for each major economic activity or sector. No full set of accounts is prepared from the expenditure side. However, estimates are made of gross capital formation using both the commodity flow and the expenditure approach, and of public consumption from an analysis of the accounts of the public sector institutions. Details on imports of goods and services and exports of goods and services are derived from the balance of payments. Total private consumption is obtained as a residual. Outlines of certain key accounts are shown in Appendix 2.

2. Although Kenya's national accounts tables are quite comprehensive, they are still short of covering all the aggregates in the SNA manual. To date, the national accounts estimates have been published in the annual series of Economic Surveys and Statistical Abstracts. The Central Bureau of Statistics now intends to publish as well a regular national accounts report and the first issue is

(1) A System of National Accounts (Series F, No. 2, Rev. 3), United Nations, New York, 1968.

currently under preparation. A list of the tables to be included in this forthcoming publication is set out in Appendix 3.

Conformity with the SNA Manual

3. The principal departure from the concepts of the SNA manual is the treatment of forestry. As stated in Chapter 4, the value of forestry is the sum of:

- the value of timber, both mature trees and thinnings, felled;
- the value of the increase in standing timber planted by the Forest Department;
- the expenditure on new planting;
- the royalties paid to the Forest Department.

To assess the value of output as solely the value of trees felled does not seem satisfactory in Kenya where many of the forests are newly planted. Royalties are regarded as the payments for services, not as property income. This, too, is a departure from the SNA.

4. These are deliberate departures from the concepts of the manual. There are other instances where departures occur because they are unavoidable owing to lack of basic data. It is, for Instance, not always feasible to use producer prices to value agricultural outputs. Many agricultural outputs are valued at the prices paid by marketing boards(2) at their warehouses; the prices therefore include an element of transport charges. Similarly, sales of fruit and vegetables are often valued at the prices ruling in nearby local markets. Nor is it possible to subdivide the value of the increase in herds between capital formation and an increase in stocks in exactly the way advocated by the manual. The exception is exotic pedigree herds of dairy cattle, sheep kept for wool, and breeding stock; the value of the increase in such herds is allocated to capital formation.

5. The criteria in the manual have been strictly followed in classifying the activities of enterprises, producers of government services, and producers of private non-profit services to households.

Production Boundary

6. National accounts are intended to measure the value of all production taking place in the economy. The term "production", however, is vague and, because conditions and practices in different countries vary(3), the SNA lays down no hard and fast rules. Broadly speaking, the national accounts in Kenya cover the pro-

(2) Marketing boards are statutory corporations set up by the Government to handle marketing of particular agricultural crops on an exclusive basis.

(3) See D.W. Blades, Non-Monetary (Subsistence) Activities in the National Accounts of Developing Countries, Development Centre, OECD, Paris, 1975.

duction of all enterprise activities in the monetary economy and production in the traditional economy if the activity corresponds to some activity undertaken commercially in the monetary economy; Examples of these activities are building and construction work by households for their own use, and water and firewood collection by households in certain areas of the country. Such activities are classified as "traditional"(4) because, even though a proportion of the inputs are purchased from the monetary economy, the output is not sold.

7. There is a good reason for extending the boundary of production to cover certain intra-household services. For as the economy develops, part of the growth in the monetary economy will be in substitution for activities previously undertaken by the household. It can be expected, for example, that over the next decade the proportion of farm production used for own consumption will continue to decline. If only the outputs of the monetary economy are covered, a very misleading picture of economic growth will be obtained.

Monetary and Traditional Economies

8. Kenya's national accounts give separate estimates of production for the monetary and traditional economies. Traditional production includes the output of rural households engaged in the following activities:

- hut building,
- ownership of dwellings (huts),
- water collection in non-pastoral areas,
- firewood collection in non-pastoral areas,
- collection of poles and posts,
- fishing for home consumption.

A "rural household" is one which is located outside the boundaries of municipal and local authority areas.

9. Formerly it was assumed that the greater part of agricultural output of small farms was produced for home consumption and this part of their output was included in the estimate of production for the traditional economy. As stated in Chapter 3, the proportion of small farm output consumed at home has since been found to be much smaller than originally anticipated. The major part of agricultural production is marketed. Hence, it is no longer considered appropriate to continue including home consumed agricultural output with the other outputs of the traditional economy but to include it with those of the monetary economy.

(4) In the previous national accounts series, such activities, which then included farm production for home consumption, were classified as "non-monetary".

10. It is useful for purposes of analysis to state separately the estimates of production for the monetary and traditional economies. It is also useful to group together those intra-household activities included under traditional production. Estimates for such activities are of a lower order of accuracy than those undertaken by enterprises in the monetary economy.

Distribution of Factor Income

11. No imputations are made for the wages and salaries of self-employed persons or of unpaid family workers. Accordingly, the operating surplus of many activities - particularly in agriculture, transport and communications and the retail trade - contains a substantial labour element. Here, too, because of the diversity of conditions in different countries(5), the SNA manual does not make specific recommendations.

12. In Kenya's national accounts, value added at factor cost for each activity is divided into its components: namely, into personal emoluments and gross operating surplus. Consumption of fixed capital is included with the operating surplus. No imputation is made for consumption of fixed capital by producers of government services except for depreciation of vehicles used by the Central Government. To this extent the methodology does not conform with the SNA manual.

Kind of Economic Activity

13. The classification of activity is undertaken at the 4-digit level. The classification(6), as modified to suit Kenya's needs, is given in Appendix 4. Exceptionally, this classification is not used for producers of government services. Their activities are classified into public administration, defence, health, education, agricultural services, and other services.

14. The classification of activities at the 4-digit level permits a more homogeneous grouping of activities in respect of character, cost structure and technology. Further, a detailed classification is particularly important for the construction of a meaningful input-output table. Such tables are available for Kenya for the years 1967(7) and 1971(8).

(5) See, for example, D.W. Blades, D.D. Johnston and W. Marczewski, Service Activities in Developing Countries (An Analysis Based on National Accounts), Development Centre, OECD, Paris 1974.

(6) International Standard Industrial Classification of All Economic Activities (Series M, No. 4, Rev. 2), United Nations, New York, 1968.

(7) Input-Output Table for Kenya 1967, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, December 1972.

(8) Input-Output Table for Kenya 1971, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, August 1976.

15. Nevertheless, a refined classification does raise problems; for more detailed information is clearly needed, and is more difficult to obtain, than if a broader classification was used. Where an establishment engages in several activities, it is classified according to its major activity if its activities cannot be separately documented. Its major activity is determined by value of sales. However, establishments employing 50 or more persons are required to supply details of the production of their different outputs.

Public and Private Sectors

16. Activities are also grouped on the basis of ownership into public and private sectors of the economy. Details on production by establishments in the public and private sectors are published at the 1-digit level of industrial classification.

17. The public sector includes the enterprise activities of the Central Government and local authorities and those of their activities that use technological processes similar to those used by enterprises in the private sector. Included, too, in the public sector are:

- parastatal bodies engaged in enterprise activities;
- enterprises in which the combined holding of equity capital by the Government and parastatal authorities exceeds 50 per cent;
- East African Community corporations:
 - East African Harbours Corporation,
 - East African Railways Corporation,
 - East African Posts and Telecommunications Corporation,
 - East African Airways Corporation,
 - Eastern Africa National Shipping Line,
 - East African Development Bank.

All enterprises classified in the public sector are listed in Appendix 5.

East African Community

18. The treatment of the activities of the East African Community corporations and those of the East African Community General Fund Services has presented special difficulties. Given the prerequisite that the analysis of such activities, both for national accounts and balance of payments, must be consistent, only the activities that occur in Kenya have been recorded in Kenya's national accounts. Since the analysis needed is both detailed and complicated, both the methods and specimens of the analysis are given in Appendix 6.

19. The position of the Community corporations at the time of publication of this report is in a state of flux. Some, if not all, of them will be re-organized into separate corporations operating independently in each partner state. If and when

that happens, the methodology detailed in Appendix 6 will be suitably amended. Most of the analysis to date, however, will remain valid.

Sources of Information

20. Some major sources of information used in compiling the national accounts are:

- * annual Census of Large Farms,
- * annual Integrated Rural Survey,
- * annual Survey of Manufacturing Industry,
- * monthly Survey of Manufacturing Output,
- * annual Survey of Mining and Quarrying,
- * annual Survey of Building Contractors,
- * quarterly Business Expectations Enquiry,
- * annual Survey of Employees and Self-Employed Persons,
- annual Investment Survey undertaken by the East African Statistical Department,
- annual Survey on Insurance Companies,
- annual questionnaire completed by the Central Bank on financial institutions ,
- annual Rent Survey,
- annual Informal Sector Survey,
- annual Survey of Domestic Servants,
- annual reports from marketing boards and large firms,
- annual questionnaires completed by the East African Community corporations,
- annual accounts of the East African Community General Fund Services,
- annual accounts of the Central Government and local authorities,
- annual reports of various ministries and departments,
- annual Trade Report of the East African Customs and Excise Department,
- monthly records of vehicle registration,
- * Survey of Distribution, 1971,
- * Census of Industry, 1972,
- * Survey of Small Scale Rural Enterprises, 1972,
- * Survey of Services, 1975.

Details about the more important surveys, which are indicated above by an asterisk, are summarized in Appendix 7.

21. In addition, numerous special enquiries have been, or are, undertaken to obtain Information for the national accounts and balance of payments. These enquiries are specified in the text.

Consistency Checks

22. As far as possible all estimates made are subjected to checks. These checks consist of:

- Comparing the data on a questionnaire completed by a firm or large farm for the year of reference with the comparable figures supplied by it for previous years.
- Comparing the change in the value of output at constant prices of an industry with the change in employment in that industry; some allowance being made for increasing productivity.
- Comparing the ratio of intermediate consumption to the value of output for an industry in the year of reference with that in the input-output table.
- Comparing, in certain cases, the trend in the value of output of an industry with that of exports.
- Reconciling changes in government expenditure on building and construction with changes in the value of output of the building and construction industry.
- Undertaking overall checks to test the plausibility of some key aggregates. For example, comparisons over time are made of the ratios of gross capital formation to gross domestic product, and of private consumption to gross domestic product.

Quality of Estimates

23. The reliability of the component estimates of gross domestic product of the whole economy varies very considerably. Comments are made in the text about the reliability of certain estimates and such information is given more fully in Appendix 9. Needless to say, the assessment of the reliability of any estimate is a subjective value judgement.

Chapter 3

AGRICULTURE

1. Agriculture is the most important sector of the economy. It contributes nearly 30 per cent to the gross domestic product of Kenya. The production of the sector is subdivided as follows:

- Private Sector:
 - Farms covered by the annual Integrated Rural Survey.
 - Large farms covered in the annual Census of Large Farms.
 - Farms not covered by either the Integrated Rural Survey or the Census of Large Farms.
- Public Sector:
 - Settlement scheme farms run by the Ministry of Lands and Settlement.
- Agricultural Services:
 - Public sector.
 - Private sector.
- Hunting, Trapping and Game Propagation.

2. The annual Integrated Rural Survey (IRS) covers all farms up to 20 hectares(1). The annual Census of Large Farms covers farms located in the former scheduled areas(2). The two sets of farms covered by these surveys are referred to as "IRS farms" and "large farms".

3. There are certain farms that are not covered by either of these two surveys. Such farms are referred to as "gap farms". Relatively they are not important. It

(1) For further details refer to Appendix 7 of this report and the publication Integrated Rural Survey 1974-75: Basic Report, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, March 1977.

(2) For further details refer to Appendix 7 of this report and the publication Agricultural Census of Large Farms 1973 and 1974: A Brief Statistical Analysis, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, February 1977.

is estimated that there are about 40 thousand such gap farms compared to 1.4 million IRS farms.

4. Production accounts are prepared separately for large farms and gap farms combined, and IRS farms. Both the value of output and intermediate consumption are therefore computed at this level of detail. Also an important statistic derived from these production accounts is the value of output that is home consumed on these farms.

5. The IRS data have shown that on IRS farms about 40 per cent of the value of agricultural output is home consumed. Moreover, most of the inputs, with the exception of home grown seed and crops fed to livestock, are purchased. The previous treatment of including most of the production of small farms, with the exception of sales of output to marketing boards(3), co-operatives and processing factories, in the traditional economy seems therefore to be now inappropriate. For large farms almost the entire production is sold and for the agriculture sector as a whole home consumption accounts for about 27 per cent of total output.

ESTIMATES AT CURRENT PRICES

Value of Agricultural Produce

6. The value of agricultural output - livestock and livestock products excluded - on large farms and gap farms, and IRS farms consists of:

- Sales of crops, fruits, vegetables to marketing boards, co-operatives and processing factories.
- Home grown seed.
- Other disposals of agricultural produce:
 - sold on local markets,
 - home consumed,
 - fed to livestock,
 - given to labour.
- Growth in immature permanent crops.
- Land improvement.

7. Table 3.1 lists the crops handled by marketing boards, co-operatives and processing factories. The output of these crops is valued at the prices paid by marketing boards, co-operatives and processing factories. They are as close to producer prices as it is possible to get. The prices, however, do include a small element of transport costs for delivering ex-farm. The prices paid by these purchasing agencies are net of the cost of bags. The value of output is therefore increased by the value of the bags with a contra entry for intermediate consumption.

(3) See footnote 2 of Chapter 2 for definition.

Table 3.1 SOURCES AND FREQUENCY OF INFORMATION ON CROPS HANDLED BY MARKETING BOARDS, CO-OPERATIVES AND LARGE PROCESSING FACTORIES

| Crop | Sources of Information | Frequency of Information |
|------------------------------------|---|--------------------------|
| CEREALS: | | |
| Wheat | Wheat Board of Kenya | Monthly |
| Maize | Maize and Produce Board | Monthly |
| Barley | Kenya Breweries and Kenya Farmers Association | Quarterly |
| Rice paddy | Maize and Produce Board | Monthly |
| Other cereals | Maize and Produce Board | Monthly |
| TEMPORARY INDUSTRIAL CROPS: | | |
| Pineapples | Canners of pineapples | Monthly |
| Castor oil seed | Maize and Produce Board | Monthly |
| Pyrethrum | Pyrethrum Marketing Board | Monthly |
| Sugar cane | Sugar refineries | Monthly |
| Cotton | Cotton Lint Seed Marketing Board | Monthly |
| Tobacco | Manufacturers of tobacco products | Quarterly |
| OTHER TEMPORARY CROPS: | | |
| Pulses | Maize and Produce Board | Monthly |
| PERMANENT CROPS: | | |
| Coffee | Coffee Board of Kenya | Monthly |
| Sisal | Sisal Board of Kenya | Monthly |
| Tea | Kenya Tea Development Authority | Quarterly |
| | Tea Board of Kenya | Monthly |
| Coconuts | Maize and Produce Board | Yearly |
| Wattle | Kenya Wattle Manufacturers Association | Quarterly |
| Cashew nuts | Maize and Produce Board | Monthly |

8. The data on quantities and values provided by marketing boards, co-operatives and processing factories are highly reliable. The purchases by these agencies are allocated by source of origin - into large farms and gap farms, and IRS farms - by subtracting the sales to these agencies by IRS farms - obtained from the annual survey - from the total. Thus, although no survey of gap farms has been undertaken, their sales to purchasing agencies are automatically included.

9. Data on the value of home grown seed are obtained from the Census of Large Farms, the IRS and the Wheat Board. A supplementary estimate is made of the value of home grown seed by gap farms. It is assumed that the value per gap farm is the same as that on a "large" IRS farm.

10. The Census of Large Farms and the IRS are also the sources of information on the production of crop outputs sold on local markets, consumed on farms, fed to livestock, and given to labour. Again, it is presumed that the production of such output on gap farms is the same as that on "large" IRS farms. Sales on local markets are valued at the prices ruling in these markets. Such values do contain a transport and distribution element. It is not feasible to eliminate these margins.

The valuation of the crops consumed on farms, fed to livestock, or given to labour, is based on the prices paid by the purchasing agencies listed in Table 3.1.

11. Included, too, in the value of output of crops is the imputed value of immature permanent crops, namely coffee and tea. No imputations for other permanent crops are attempted owing to lack of information. Permanent crops, like coffee and tea, take several years from the date of planting to come into bearing. Expenditures on planting, and subsequently on weeding, pruning, fertilizing, etc., - until the crop comes into bearing - are included as output. The contra entry on the expenditure side of this imputed output is treated as fixed capital formation under the category "plantation development".

12. For tea, the increase in acreage is obtained from the Kenya Tea Development Authority for "small farms" and from the Census of Large Farms for large farms. The former source also provides estimates of expenditure per acre during the first and subsequent years of planting. Such expenditures on acreages of different "vintages" are then aggregated to yield total annual expenditure on immature crops. The definition of "small farms" used by the Kenya Tea Development Authority is not precisely the same as the definition of an IRS farm; it also covers gap farms. Consequently, the division of the value of each output between large farms, as per the Census of Large Farms, and "small farms" is not entirely analogous to that between large farms and gap farms, and IRS farms. But the differences are not large. For coffee, the source of information is the Coffee Board of Kenya. Here, too, the allocation between the two categories of farm discussed above is only an approximation.

13. Land improvement is the last category of production included under agricultural produce. The annual Census of Large Farms is the source of information on value of land improvement effected by large farms. For "small farms", that is, IRS and gap farms, the Ministry of Agriculture supplies information on the lengths of narrow base terraces and bench terraces constructed; and on the amount of time it takes to dig a specified length of terrace. This information is converted into an estimate of the value of output - or fixed capital formation on the expenditure side - by applying the hourly wage rate of casual labour in agriculture obtained from the annual Survey of Employees and Self-Employed Persons(4) to the estimated hours spent in terracing. Again the classification of this output into the value of land improvement effected by large farms and "small farms" is not quite analogous to the desired classification into large farms and gap farms, and IRS farms. But here, also, the differences are not likely to be large.

(4) See Appendix 7 for further details on this survey.

Livestock and Livestock Products

14. The general method of computing estimates on the value of output of livestock and livestock products is very similar to that for agricultural produce. The value of output on large farms and gap farms, and IRS farms consists of:

- Animals for Slaughter:
 - Sales to marketing boards, co-operatives and meat factories.
 - Other disposals:
 - sold on local markets,
 - home consumed,
 - given to labour.
- Livestock Products:
 - Sales to marketing boards and co-operatives.
 - Other disposals:
 - sold on local markets,
 - home consumed,
 - fed to livestock,
 - given to labour.
- Increase In Herds.

15. The value of sales to marketing boards, co-operatives and meat processing factories is provided by these purchasing agencies. The twofold split of the value of sales into large farms and gap farms, and IRS farms is derived by subtracting the value of sales by IRS farms to these agencies. The value of such sales by IRS farms is obtained from the annual survey.

16. The value of output of other disposals - consisting of sales on local markets and produce which is home consumed or given to labour - is derived from the Census of Large Farms and the IRS. An estimate of such disposals is made for gap farms on the assumption that values per gap farm are the same as those for "large" IRS farms. The number of cattle disposed of by large farms, as per the Census of Large Farms, is valued at the weighted average price paid by the Kenya Meat Commission for "choice", "standard" and "commercial" grades of meat, and that by IRS farms at the weighted average price of "standard" and "commercial" grades. These prices are applied to all output of other disposals of cattle irrespective of whether they are sales on local markets, or home consumed, or given to labour.

17. The estimates of the value of the output of other disposals from sheep, goats, pigs and poultry are similarly derived. All sheep - however disposed of - are valued at the average price per sheep paid by the Kenya Meat Commission, and all pigs - again however disposed of - at the weighted average price for "porkers" and "manufacturers" grades paid by the Uplands Bacon Factory. The prices of goats and poultry are obtained from the IRS.

18. Livestock products consist of milk, eggs and wool. Value of hides and skins is not taken into account here since animals are sold on the hoof by farmers. The information on milk supplies is obtained from the Kenya Co-operative Creameries, the Census of Large Farms and the The valuations are made in the same way as mentioned in paragraphs 16 and 17 above with both sales to the Kenya Co-operative Creameries and other disposals being valued at the price paid per litre by the Kenya Co-operative Creameries. As before, an estimate, based on the assumption that the value per gap farm is the same as that on a "large" IRS farm, is included to cover other disposals by gap farms. The estimate for wool is similarly made from information obtained from the Kenya Farmers Association, the Census of Large Farms and the IRS. Wool supplies - which in fact come mainly from large farms - are valued at the average price paid by the Kenya Farmers Association. The Census of Large Farms and the IRS also provide information on the production, disposal and prices of eggs. A separate estimate is made for gap farms based on the assumption cited above.

19. The final component in livestock output is the value of the increase in herds. Inclusion of the value of this increase in the output of the agriculture sector is analogous to the treatment of immature permanent crops mentioned earlier in paragraph 11. On the expenditure side, the contra entry to this output is classified either as fixed capital formation or as an increase in stocks depending on the purpose of the herds in question.

20. The Census of Large Farms is the source of information on the numbers of dairy and beef cattle on such farms. The numbers are further subdivided into mature and immature livestock. From these, the annual increases in beef and dairy herds are calculated. However, such increases are spread over animals of all ages; and immature animals are worth less than mature. Hence, when estimating the contribution to output of the increase in herd, two assumptions are made to obtain an average value of an immature animal. These are that immature animals increase in value by equal annual amounts from birth to maturity and that there are an equal number of such animals in each age group⁽⁵⁾. The average price of an immature animal is then estimated as:

$$\bar{v} = p \left(\frac{n-1}{n} + \frac{n-2}{n} + \dots + \frac{1}{n} \right) \frac{1}{n-1}$$

Where \bar{v} = average value of an immature animal, p = price of mature animals and n = number of years to maturity.

In other words: $\bar{v} = \frac{p}{2}$ or half the price of a mature animal .

(5) Based on recommendations to be found in D.W. Blades, Non-Monetary (Subsistence) Activities in the National Accounts of Developing Countries, Development Centre, OECD, Paris, 1975.

Neither of these assumptions need strictly to be true. But they do enable a useful estimate to be derived as an approximation. The problem does not arise in the case of mature animals, or not nearly so acutely at any rate, since there is not the same variation in their prices.

21. The value of the increase for each of the four sub-categories, that is, dairy and beef cattle classified into mature and immature animals, is calculated for herds on large farms only. The livestock on IRS farms is subdivided into mature and immature animals, but not into beef and dairy cattle. It is assumed that all cattle on IRS farms are beef cattle. Again an estimate is made for gap farms; the value of the increase per farm being taken as equal to the average for "large" IRS farms. On the expenditure side, the value of the increase in dairy cattle is recorded as fixed capital formation, and that in beef cattle as an increase in stocks.

22. Similar calculations are made for the value of the increase in sheep, goat and pig herds; with a contra entry on the expenditure side either as an increase in stocks or, in the case of sheep kept for wool or pigs kept for breeding, as fixed capital formation.

23. Neither the Census of Large Farms nor the IRS covers the cattle owned by nomadic tribes. Separate estimates are therefore made of the value of output of livestock and livestock products from such herds. An estimate of the number of cattle owned by the nomadic tribes is obtained by deducting the estimated number of cattle on large farms, gap farms, and IRS farms from the estimated total cattle population of the whole country. In estimating cattle on gap farms, the number of cattle per farm is taken as equal to the average per farm on "large" IRS farms. An estimate of the animals slaughtered by nomads is based on the size of their herds and the percentage annual offtake estimated by the Veterinary Department. This estimate of offtake is valued at the price paid for the "commercial" grade of meat by the Kenya Meat Commission. It seems appropriate that the value of output of livestock and livestock products by nomads should be included with that of IRS farms. Their sales of animals to the Kenya Meat Commission are included with the sales of large farms and gap farms. Such sales by large farms and gap farms are obtained by deducting, from total purchases by the Kenya Meat Commission, the sales by IRS farms. An adjustment is made - based on an estimate by the Kenya Meat Commission of its purchases of cattle from nomadic tribes - to include such sales with those of IRS farms. The difference between the value of the total offtake of cattle owned by nomads and sales of such cattle to the Kenya Meat Commission yields an estimate of home consumption by nomads.

24. The estimated milk production from cattle owned by nomads is derived from the estimated size of such herds, the estimated proportion that are cows, and the estimated yield per cow. The quantity is valued at the average price per litre paid by the Kenya Co-operative Creameries.

25. An estimate of the value of the increase in herds owned by nomads is made in the same way as that described in paragraph 21 for herds on IRS farms.

Total Value of Output

26. The addition of the estimated total value of agricultural production and the estimated total value of livestock and livestock products provides the required estimate of the total value of output of the agriculture sector. Moreover, separate estimates are provided of the total value of output of large farms and gap farms, and of IRS farms. That of the latter also includes the contribution to output by herds owned by nomads.

Intermediate Consumption

27. the Census of Large Farm and the IRS provide information on the purchase, by large farms and IRS farms, of fertilizers, insecticides, animal feed stuffs and purchased seed, and of expenditure on the hire of machinery. These surveys also cover some other inputs, such as home grown seed, but not all inputs. Import statistics and distributors of these products are also an important source of information.

28. Since the need is to construct production accounts, not only for the agriculture sector as a whole but separately for large farms and gap farms, and IRS farms, all items of intermediate consumption need to be allocated between these two categories of farms. In instances where the estimate of the total intermediate consumption of some item, such as fertilizer, is obtained from the supply side, the value of this item of intermediate consumption at producer prices is raised to purchaser prices by adding transport and distribution margins. The intermediate consumption of such an item by IRS farms - obtained from the annual survey - is then subtracted from this total figure to obtain the estimate of consumption on large farms and gap farms. However, where no estimate of value of the total supply of some input can be made, an estimate is derived from the information obtained through the Census of Large Farms and the IRS with an addition being made to cover the intermediate consumption of gap farms. This is done on the assumption that the intermediate consumption of this item per gap farm is the same as that on a "large" IRS farm. In cases where neither the total cost of some of the input item from the supply side is obtainable, nor the intermediate consumption of it by IRS farms is known, arbitrary methods have to be resorted to.

29. Table 3.2 lists items of intermediate consumption along with brief comments on the source of information. The total cost of items (i), (vii), and (viii) (a) is obtained from the supply side. Such costs are allocated to large farms and gap farms, and to IRS farms, by subtracting consumption of IRS farms - obtained from the annual survey - from the total cost of the item. Details on cost

estimates on items (v) and (viii) (b) are built up from information from the Census of Large Farms and the IRS. An addition, however, is made for gap farms whose input per farm is assumed equal to that of a "large" IRS farm. Items (ix), (xiv), (xv), (xix) and (xxi) are assumed as being relevant to large farms only. All other items - items (ii), (iii), (iv), (vi), (vii), (x), (xii), (xiii), (xvi), (xvii), (xviii), (xx) and (xxii) - are allocated to large farms and gap farms, and to IRS farms, in the same proportion as that between their aggregate expenditures on fertilizers, insecticides, manufactured feed stuffs, purchased seed and machinery repairs. This method of allocation is arbitrary, but the cost of items so allocated is not large.

30. The estimate of expenditure on spares and maintenance of machinery is derived from the Census of Large Farms and the IRS. An addition is made to cover gap farms. The estimate for large farms is based on the number of wheel tractors, crawler tractors and self-propelled combine harvesters owned by them. The annual cost of repair and maintenance for each type of machine - obtained for the base year from an ad hoc enquiry - is run forward annually on the Import Price Index for Machinery and Transport Equipment(6). In addition, for large farms, an estimate is made of the cost of spares and repairs of all other unspecified types of machinery. This is based on the number of large farms and estimated expenditure per farm on such repairs and spares. Again the annual cost is run forward on the index just mentioned.

31. A rather similar estimate is made of the expenditure on tractor services. The estimate refers to tractor services purchased from owners of tractors outside the agriculture sector. Information about the number of tractor hours purchased and the cost per tractor hour is supplied by the Ministry of Agriculture.

32. Transport costs refer solely to the cost of getting the produce to the market. Because prices received are for delivery at the purchasing agencies' collecting point, such as a warehouse or a factory, they do contain a transport element. The excess of receipts over a producer price valuation is offset by including such transport costs in intermediate consumption. Transport costs are first estimated at constant prices as a proportion of gross farm revenue at constant prices. A price index of premium and regular grade petrol is used to inflate the constant price estimate of the transport costs to current prices.

(6) Published annually in the Statistical Abstract. New trade indices were introduced in 1977. An article on these new indices is to be found in the Kenya Statistical Digest (Vol. XV, No. 2), Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, June 1977.

Table 3.2 INTERMEDIATE CONSUMPTION OF AGRICULTURE

| Item | Source of Information and/or Brief Comments on Method |
|---|---|
| MATERIAL INPUTS: | |
| (i) Fertilizers & other chemicals | Total supply estimated from import statistics and domestic production; then converted to purchaser prices. |
| (ii) Livestock drugs & medicines | Total supply derived from information provided by suppliers; then converted to purchaser prices. |
| (iii) Fuel | Suppliers provide the information; then 1 per cent added to cover transport costs and 5 per cent to cover unrecorded purchases at retail level. |
| (iv) Power | East African Power and Lighting Company Limited. |
| (v) Spares & maintenance | Census of Large Farms and Integrated Rural Survey. |
| (vi) Bags, old & new | Manufacturers of bags. |
| (vii) Manufactured feeds | Total supply estimated from import statistics and domestic production; then converted to purchaser prices. |
| (viii) Seeds: | |
| (a) Purchased | -Suppliers provide information; then converted to purchaser prices. |
| (b) Home grown | Census of Large Farms and Integrated Rural Survey. |
| (ix) Office expenses | Census of Large Farms; assumed relevant to large farms only. |
| (x) Small implements | Imports supplemented with a further addition of 10 per cent to represent local production; then converted to purchaser prices; then 5 per cent deducted to represent use outside agriculture. |
| (xi) Other (twine, etc.) | Base year figure projected forward on gross farm revenue. |
| SERVICE INPUTS: | |
| (xii) Marketing, research & publicity | Annual reports of the marketing boards (such as the Sisal Board, Tea Board, Coffee Board, Pyrethrum Board, Kenya Tea Development Authority). |
| (xiii) Artificial insemination | Ministry of Agriculture. |
| (xiv) Aerial spraying | Companies engaged in crop spraying. |
| (xv) Accounting, secretarial & auditing | Census of Large Farms; assumed relevant to large farms only. |
| (xvi) Tractor services | Ministry of Agriculture; based on the number of tractor hours purchased from establishments outside the agriculture sector and cost per tractor hour. |
| (xvii) Private veterinary services | Based on the number of veterinary practitioners and the estimated average salary of such professionals; then a percentage is added to cover drugs and expenses. |
| (xviii) Government seed | Ministry of Agriculture. |
| (xix) Farm planning & survey | Ministry of Agriculture; assumed relevant to large farms only. |

Table 3.2 INTERMEDIATE CONSUMPTION OF AGRICULTURE (Contd.)

| Item | Source of Information and/or Brief Comments on Method |
|---|---|
| (xx) Government veterinary, inoculation & inspection services | Ministry of Agriculture. |
| (xxi) Insurance | Base year figure from an ad hoc survey; this is subsequently run forward on current cost of all other inputs; assumed relevant to large farms only. |
| (xxii) Transportation | Related to gross farm revenue at constant prices, but adjusted by an index reflecting transport costs. |

Value Added

33. Both the value of output and intermediate consumption are classified by large farms and gap farms, and IRS farms. The value added is then derived as a residual for these two types of farms.

34. The annual Survey of Employees and Self-Employed Persons is the source of information on wages and salaries paid by large farms. A deduction is made to cover the wages and salaries paid by them for non-farm activities, namely, the construction of residential and non-residential buildings and other types of construction. The deduction is related to the value of such building and is explained in Chapter 8. Wages and salaries per gap farm are estimated as being equal to those paid on average by "large" IRS farms. The annual survey is the source of information on wages paid by IRS farms. Wages in kind are included with cash wages. Subtraction of wages and salaries from value added - separately for large farms and gap farms, and IRS farms - yields the operating surplus, including consumption of fixed capital, for the two categories of farms.

35. No imputations are made to cover the work done by the owner of the farm or by unpaid family workers. Accordingly, the operating surplus, particularly of small holdings, contains a large element of labour.

Public Sector and Private Sector Agriculture

36. The public sector consists of farms on settlement schemes which are still owned and managed by the Settlement Department in the Ministry of Lands and Settlement. Figures on the value of output, intermediate consumption and value added are obtained from published accounts. Subtracting these figures from the corresponding figures derived for the agriculture sector as a whole provides estimates for the private sector. Settlement scheme farms are covered by the IRS.

Agricultural Services

37. These consist of the services provided by:

Private sector:

- Coffee Research Foundation,
- Agricultural Society of Kenya,
- private enterprises engaged in crop spraying and tractor services.

- Public sector:

- Kenya Tea Development Authority,
- National Irrigation Board.

The required information is obtained from the annual accounts of the bodies concerned.

Hunting, Trapping and Game Propagation

38. No reliable Information exists for making the required estimates. Accordingly, "guesstimates" are resorted to. The value of output is taken as being equal to the value of exports of ivory and other game products plus the cost of game licences issued. It is assumed that the value of output of game trapped or shot for home consumption is equal to the value of licences issued. Intermediate consumption is taken as being equal to the value of services of professional hunters derived from the 1975 Survey of Services(7). The estimate on value added by this activity is no more than a rough order of magnitude.

ESTIMATES AT CONSTANT PRICES

Agriculture and Livestock

39. Constant price estimates of the value of output and intermediate consumption are prepared for large farms and gap farms, and for IRS farms. Estimates on value added are derived using the double deflation method(8). For each category of farm, separate price indices are derived for sales to purchasing agencies and other disposals, and for intermediate consumption. In each case, the weights used for computing the indices for large farms and gap farms are different from those used for IRS farms. The indices are constructed using prices relatives - the weights based on the ratio of the value of sales of each selected representative item to total sales, or the ratio of the cost of each representative input to the cost of

(7) See Appendix 7 for further details.

(8) For a discussion on this and other methods of deflation see, for example, T.P. Hill. The Measurement of Real Product. Economic Studies Series, OECD, Paris, February 1971.

total input. Such weights are easily derived from the information obtained in the Census of Large Farms and the IRS. The indices constructed for IRS farms are used to deflate other disposals of gap farms.

40. Certain items, however, are omitted from the indices and deflated separately. The method for deriving expenditures at current prices on maintenance and repairs of machinery, tractor services and transport costs for large farms have been described in paragraphs 30, 31, and 32. The constant price estimates of these inputs are similarly derived except that base year costs are used. For IRS farms, the expenditure on maintenance and repairs at constant prices is estimated as a proportion of the value of output at constant prices.

Agricultural Services

41. Value added at current prices by agricultural services, is deflated by an index of agricultural wage rates to yield value added at constant prices. The index is based on information obtained from the annual Survey of Employees and Self-Employed Persons.

Hunting, Trapping and Game Propagation

42. The base year current price estimates are run forward on an index of the value of output at constant prices. The export component of the value of output is derived by deflating the value at current prices by the relevant component of the Export Price Index⁽⁹⁾. The base year value of licences is run forward on a weighted average of the numbers of the different types of licences issued.

(9) See footnote 6.

Chapter 4

FORESTRY

1. This sector contributes only 1 per cent to the gross domestic product of the whole country. With the drive on afforestation, to prevent soil erosion, it is likely to become more important in future. The production of the sector is divided as follows:

- Monetary Economy: Public Sector:
 - Forest Department:
 - trees felled,
 - "work in progress".
 - new planting,
 - royalties.
- Monetary Economy: Private Sector:
 - Large farms:
 - trees felled,
 - new planting.
 - Logging:
 - within forestry reserves,
 - outside forestry reserves.
 - Charcoal burning.
- Traditional Economy:
 - Collection of:
 - firewood,
 - poles and posts.

ESTIMATES AT CURRENT PRICES

Monetary Economy: Public Sector

2. The Forest Department of Central Government is treated as a public enterprise. It is not included in producers of government services. Information about its activities is obtained from the accounts of Central Government and from a special return that the Forest Department completes annually. This enables its forestry activities to be separated from its other activities - ownership of dwellings, construction of residential and non-residential buildings, and manufacturing.

3. A special problem exists on the measurement of the output of forestry by the Forest Department. In countries where planting has been going on regularly for many years and where the acreages of trees of different "vintages" are about equal, the value of output can be satisfactorily measured by the value of trees felled. But in Kenya, where many of the forests - which take 35 years to mature - are newly planted, this does not seem appropriate. If the value of output is measured solely by the value of trees felled, then for a newly planted forest the value of output will be nil for 34 years and a large figure in the 35th year when the trees are felled. To avoid this, the value of output of forests planted and maintained by the Forest Department is measured not only by the value of timber - both mature trees and thinnings - felled but also by the value of the increase in standing timber or "work in progress". Included too in the value of output of the Forest Department are expenditures on new planting and royalties.

4. The Forest Department supplies each year information on the distribution of its planted forests by years to maturity. From this information it is possible to make at any given time an estimate of the increase in the number of hectares of planted forests detailed by "vintage". The physical increase, or decrease, so obtained for each "vintage" in terms of hectares is then valued. A discount factor of 8 per cent is applied to the value of timber on one mature hectare to obtain the then current value of immature timber on a hectare of planted forest for all the "vintages" to the year of maturity. This enables the value of the physical increase in each "vintage" to be calculated. For example, the value of the increase for trees maturing in, say, 15 years is:

$$\frac{\text{Increase/decrease in number of hectares maturing in 15 years} \times \text{Value of output (at current prices) from 1 hectare of forest of mature trees}}{15}$$

(1.08)

These values are then summed to get an estimate of the value of the increase in "work in progress".

5. Not included in this calculation are the trees planted during the current year; to do so would be to double count. Outlays on new planting of trees are included as another type of output of the Forest Department which, on the expenditure side, is classified as fixed capital formation. The value of the increase in "work in progress" is treated, on the expenditure side, as an increase in stocks. Also under the treatment outlined above, trees when they reach maturity and are felled cease to be part of "work in progress". They enter the value of output as timber felled. The deduction of trees felled from "work in progress" is slightly more than offset by their sale as felled timber. This is because the value of trees felled exceeds their value when they had one year to maturity by the discount factor used. As stated earlier in Chapter 2, the inclusion of the value of the increase in "work in progress" as an output of the Forest Department is a deliberate departure from the concepts of the SNA.

6. A further departure from the SNA manual is the treatment of royalties. Royalties are a form of property income and, therefore, are not relevant to the production account. However, in Kenya, the payment of royalties to the Forest Department is regarded as the payment for a service. Private loggers, on payment of royalties, are permitted to enter the indigenous forest reserves and fell indigenous trees. The Forest Department maintains these forest reserves and the payment of royalties is regarded as being a payment for such services.

7. To recapitulate, the value of output of the Forest Department is the sum of:

- the value of trees felled,
- the value of the increase in "work in progress",
- expenditure on new planting,
- royalties paid by private loggers.

Monetary Economy: Private Sector

8. Information on the forestry activities in the planted and natural forests of large farms is singularly lacking. Estimates, however, of the acreage of planted and of natural forests are available. For planted forests, the acreage is multiplied by an assumed annual offtake of 200 cubic feet per acre to obtain an estimate of the value of the annual offtake. The prices obtained from the Forest Department are used to value this annual offtake. A similar method is used for natural forests. A base year figure on the value of the offtake per acre was estimated by the Forest Department. This value is increased annually by the percentage rise in prices paid for the timber sold by the Forest Department.

9. The value of intermediate consumption of large farms for forestry is submerged with their intermediate consumption for agriculture. Their total intermediate consumption is allocated between agriculture and forestry in proportion to the value of output from these activities.

10. The Forest Department issues licences to private firms to undertake logging within the forestry reserves. The number of persons so employed is supplied by the Forest Department. The total wage bill is derived by multiplying this number by the average wage for casual labour in sawmills obtained from the annual Survey of Employees and Self-Employed Persons(1). The ratio of the value of output to the wage bill, and that of intermediate consumption to the wage bill, were calculated from an ad hoc enquiry. These ratios are applied to the current wage bill to obtain the required estimates of the value of output and intermediate consumption.

11. The 1967 Survey of Non-Agricultural Rural Enterprises provided a figure on the number of persons logging outside the forestry reserves. This number is assumed to increase at the same rate as the number of persons logging within the forestry reserves. Estimates of the total wage bill, of the value of output and of intermediate consumption are derived from the number of loggers in the same way as stated in the previous paragraph.

12. Estimates of charcoal production are derived from its end uses:

- household consumption,
- intermediate consumption of industry,
- exports.

Household consumption is based on the number of households in urban and rural areas using charcoal and the estimated quantities used per household. The numbers of such households were obtained from the 1969 Population Census. Current figures are based on population increases of 3.3 per cent per year in rural areas and 8.9 per cent per year in urban areas. Intermediate consumption of charcoal by industry is negligible. Quantities exported are obtained from the trade figures. The estimated tonnages of charcoal production are valued at the estimated producer prices prevailing in rural and urban areas. The prices used are those collected for the Nairobi Lower Income Index of Consumer Prices(2). These prices are adjusted downwards to obtain the prices in rural areas.

(1) See Appendix 7 for further details on this survey.

(2) Published quarterly in the Kenya Statistical Digest and annually in the Statistical Abstract. An explanation of its compilation is to be found in New Lower and Middle Income Cost of Living Indices, 1971: A Description of the Method of Compilation, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, January 1972. For subsequent revisions see Consumer Price Indices Nairobi, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, 1977.

13. Wood and bags are the only inputs and the quantity used is related to the production of charcoal. One person, it is estimated, can produce 10 tons of charcoal a year. The total number of persons engaged in the industry is calculated by applying this relationship to the total estimated tonnage of charcoal produced annually. Of the number engaged in the industry, 75 per cent are taken to be self-employed, the remainder being employees. The total wage bill of employees is derived by assuming a wage rate equal to that obtained from the annual Survey of Employees and Self-Employed Persons for a casual labourer in sawmills. No imputation is made to value the labour of the self-employed.

Traditional Economy

14. Firewood and poles and posts are the two products of the traditional economy. Production of firewood is based on the number of rural households outside pastoral areas, the estimated number of working days a year devoted to collecting firewood - presently assumed to be 42 working days per year - and the opportunity cost of such labour. The opportunity cost - that is, the wage rate available in alternative employment - is taken as the wage rate for casual female labour on small farms and settlement schemes based on data obtained from the 1971/72 Census of Small Farms. This wage rate is assumed to rise at the same rate as that on large farms obtained from the annual Survey of Employees and Self-Employed Persons. Intermediate consumption is of course nil. In future, but not at present, the Integrated Rural Survey will obtain new data on hours spent in collecting firewood.

15. Posts and poles are collected and used for hut building. "Huts" are all traditional residential buildings outside the boundaries of municipal and local authority areas. The value of hut building is included as part of the traditional output of the building and construction sector which is covered in Chapter 8. The value of poles and posts is taken as 9 per cent of the value of such hut building. This percentage is derived from an ad hoc study undertaken some years ago.

ESTIMATES AT CONSTANT PRICES

Monetary Economy: Public Sector

16. The value of output at current prices of the Forest Department consists of:

- the value of trees felled,
- the value of the increase of "work in progress",
- expenditure on new planting in the current year,
- royalties paid by private loggers.

The value of trees felled is deflated by an index of timber prices derived by dividing current receipts by cubic footage felled. The value at constant prices of the increase in "work in progress" is obtained by repeating the calculations

mentioned in paragraph 4 above, but the value of the outturn from one hectare of mature timber is kept constant. Expenditure on new planting at current prices is deflated by an index of wage rates for forestry activities obtained from the annual Survey of Employees and Self-Employed Persons. Base year royalties are projected forward on the aggregate value of the three other components at constant prices. The intermediate consumption at constant prices of the Forest Department is run forward on the value of output at constant prices.

Monetary Economy: Private Sector

17. With the forestry activities of large farms, base year value added is extrapolated on the value of output at constant prices obtained by deflating the current price estimate by the index of timber prices mentioned above.

18. Value added at constant prices for logging is in effect derived by deflating value added at current prices by an index of wage rates of casual labour engaged in forestry and logging activity obtained from the annual Survey of Employees and Self-Employed Persons. The value of output at constant prices is similarly derived.

19. In the case of charcoal, base year estimates are run forward on the tonnage of charcoal produced.

Traditional Economy

20. The value of firewood collection at current prices is derived from the hours spent in collecting it and the opportunity cost of such labour. The constant price estimate is obtained by keeping the opportunity cost - the wage rate for casual female labour on small farms and settlement schemes - constant.

21. The value of the collection of poles and posts at constant prices is put at 9 per cent of the value of hut building. For this calculation, however, the value of hut building is stated at constant prices. How this is derived is explained in Chapter 8.

Chapter 5

FISHING

1. This sector contributes only 0.2 per cent to the total gross domestic product of the whole country.

ESTIMATES AT CURRENT PRICES

Monetary Economy

2. The Fisheries Department provides estimates on the value and quantities of the commercial catches brought on shore at the various landing points both on inland waters and the sea. The value of other marine products is added to obtain the total value of output.

3. Inputs consist of nets, cork and glass buoys, diesel fuel, and the cost of repair and maintenance of boats. The cost of nets is obtained from import figures and from output figures on local production. These are duly adjusted to purchaser prices by adding import duty and transport and distribution margins. The quantity of diesel fuel used is taken as a fixed percentage of the value of output at constant prices; this figure is then raised in line with the rise in the price of diesel fuel. Maintenance and repair costs are obtained by multiplying the estimated average cost per boat by the number of boats. The average cost per boat is increased annually in line with the landed prices of imported paint.

Traditional Economy

4. No information is available on fishing undertaken for home consumption. The value of output of such fishing, in the absence of any information, is arbitrarily put at 10 per cent of that of the monetary economy. Value added is the same as the value of output since no inputs are consumed in this production.

ESTIMATES AT CONSTANT PRICES

Monetary Economy

5. The double deflation method is used to obtain the needed estimate of value added at constant prices. The value of output at current prices is deflated by an index of fish prices derived from data on quantities and values of the different types of fish caught. The current cost of inputs of nets, and cork and glass buoys are deflated by the relevant component of the Import Price Index⁽¹⁾. For the other inputs - maintenance and repair of boats, and diesel fuel - the current costs, as stated, are derived from the constant cost estimates.

Traditional Economy

6. The estimate of the value of output at current prices is deflated by the index of fish prices for commercial catches. Since intermediate consumption is assumed to be nil, value added at constant prices is the same as the value of output at constant prices.

(1) See footnote 6 of Chapter 3.

Chapter 6

MINING AND QUARRYING

1. Mining contributes less than 1 per cent to the total gross domestic product of Kenya. Amongst the activities undertaken are:

- Non-ferrous ore mining
- Stone quarrying, clay and sand extraction.
- Salt mining.
- Chemical and fertilizer mineral mining.
- Non-metallic mineral mining.
- Oil prospecting.

Of these activities, quarrying contributes 30 per cent to the total value added of the sector.

2. In the case of oil prospecting, the value added as conventionally calculated is, of course, negative since such activity earns no receipts. However, the contribution to gross national product, since the operating loss accrues to a non-resident company, is equal to the wages and salaries paid to residents and the consumption of fixed capital.

ESTIMATES AT CURRENT PRICES

3. An annual survey⁽¹⁾ of this sector covers all establishments with 50 or more employees, and a 25 per cent sample of establishments with 20 to 49 employees. Information on the value of output, intermediate consumption and value added is obtained. Comparable information for establishments with 5 to 19 employees was obtained in the 1972 Census of Industry. The output of these sized establishments

(1) The annual Survey of Mining and Quarrying. See Appendix 7 for further details on this survey and also for details on the 1972 Census of Industry and the annual Survey of Employees and Self-Employed Persons which are mentioned later in the chapter.

Is calculated on the assumption that the rate of growth of their output is the same as that of establishments with 20 to 49 employees. The annual Survey of Employees and Self-Employed Persons provides information on salaries and wages of establishments with under 20 employees. This information - together with the assumption that the ratios of the other components of value added to labour costs remain as in the census year - enables an estimate of value added to be made. Intermediate consumption for these sized establishments is the difference between the value of output and value added.

ESTIMATES AT CONSTANT PRICES

4. Except for oil prospecting, an Index of physical production is calculated for each of the products produced by the establishments in this sector. These separate indices are then combined into one index by weighting the quantity relatives. The weights are the proportions of the value of output of each product in the base year to the total value of output of all products. Base year estimates of the value of output, of intermediate consumption and of value added are projected forward on this indicator of physical output.

5. With oil prospecting, intermediate consumption is deflated by the Civil Engineering Cost Index⁽²⁾ and personal emoluments by an index of salaries and wages for the activity derived from information collected by the annual Survey of Employees and Self-Employed Persons. Gross operating surplus, which is negative, is obtained as the excess of intermediate consumption over salaries and wages.

Note: The questionnaire used for the annual Survey of Mining and Quarrying is fairly detailed and requires time to be completed accurately. Usually, the information provided by the survey is not available when the provisional estimates of the value of output and value added are prepared for the sector. Consequently, alternative sources and methods have to be resorted to. These are described in Appendix 8.

(2) See footnote 4 of Chapter 8.

Chapter 7

MANUFACTURING

1. The manufacturing sector attributes about 14 per cent to the gross domestic product of the whole country. The relative importance of the various manufacturing activities, or industries, is indicated in Table 7.1.
2. As explained in Chapter 2, the classification of activities is at the 4-digit level. Where an establishment manufactures goods that are both characteristic products of its own industry and the characteristic products of another industry, it is classified according to its major activity as measured by the value of sales. However, establishments having 50 or more employees are required to supply information disaggregated by their separate activities.
3. Table 7.1 includes both private and public enterprises. Separate estimates of the value of output, intermediate consumption and value added are in fact made for each of the two categories of enterprises. Private enterprises have been sub-classified further into:
 - Urban and Large Rural Establishments.
 - Other Rural Establishments.

ESTIMATES AT CURRENT PRICES

Private Sector: Urban and Large Rural Establishments

4. A general census⁽¹⁾ of all industrial establishments was held in 1972. It fully covered all manufacturing establishments with 5 or more employees in urban areas and all large establishments in rural areas which are included in the

(1) The Census of Industry, 1972. See Appendix 7 for further details on this census and also for details on the annual Survey of Manufacturing Industry, the annual Survey of Employees and Self-Employed Persons and the 1972 Survey of Small Scale Rural Enterprises which are mentioned later in the chapter.

Table 7.1 CONTRIBUTION BY INDUSTRY TO THE GROSS DOMESTIC PRODUCT
OF THE MANUFACTURING SECTOR

| ISIC(1) | Industry | Contribution to GDP of Manufacturing | |
|-----------|--|--|-------|
| 311 & 312 | FOOD MANUFACTURING: | | 20.59 |
| 3111 | Meat products | 2.22 | |
| 3112 | Dairy products | 1.48 | |
| 3113 | Canned fruit & vegetables | 0.97 | |
| 3114 | Canning & preservation of fish | 0.03 | |
| 3115 | Oils & fats | 2.22 | |
| 3116 | Grain mill products | 3.14 | |
| 3117 | Bakery products | 2.42 | |
| 3118 | Sugar refining | 1.40 | |
| 3119 | Sugar confectionary | 0.45 | |
| 3121 | Food products nec | 6.11 | |
| 3122 | Prepared animal feeds | 0.15 | |
| 313 | BEVERAGE INDUSTRIES: | | 7.86 |
| 3131 | Spirits | 0.13 | |
| 3133 | Beer & malt | 5.36 | |
| 3134 | Soft drinks & carbonated waters | 2.37 | |
| 314 | TOBACCO MANUFACTURES | | 3.26 |
| 321 | MANUFACTURE OF TEXTILES: | | 6.03 |
| 3211 | Spinning, weaving & finishing | 3.20 | |
| 3212 | Made-up textiles | 0.88 | |
| 3213 | Knitting mills | 0.59 | |
| 3215 | Cordage, rope & twine Industries | 1.24 | |
| 3216 | Cotton ginneries | 0.12 | |
| 322 | MANUFACTURE OF CLOTHING | | 3.50 |
| 323 | MANUFACTURE OF LEATHER & LEATHER PRODUCTS: | | 0.62 |
| 3231 | Tanneries & leather finishing | 0.44 | |
| 3233 | Leather products | 0.18 | |
| 324 | MANUFACTURE OF FOOTWEAR | | 1.40 |
| 331 | MANUFACTURE OF WOOD & CORK PRODUCTS: | | 2.42 |
| 3311 | Sawn timber | 2.28 | |
| 3312 | Wood manufactures & carving | 0.07 | |
| 3319 | Wood & cork products nec | 0.07 | |
| 332 | MANUFACTURE OF FURNITURE & FIXTURES | | 2.33 |
| 341 | MANUFACTURE OF PAPER & PAPER PRODUCTS: | | 2.43 |
| 3411 | Pulp, paper & paper-board | 0.09 | |
| 3419 | Pulp, paper & paper-board articles nec | 2.34 | |
| 342 | PRINTING & PUBLISHING | | 4.64 |
| 351 | MANUFACTURE OF INDUSTRIAL CHEMICALS: | | 3.51 |
| 3511 | Basic industrial chemicals | 0.75 | |
| 3512 | Pyrethrum extraction | 1.33 | |
| 3513 | Wattle bark processing | 0.61 | |
| 3514 | Fertilizers & pesticides | 0.82 | |
| 352 | MANUFACTURE OF OTHER CHEMICAL PRODUCTS: | | 5.92 |
| 3521 | Paints, varnishes & lacquers | 0.64 | |
| 3522 | Drugs & medicines | 0.84 | |
| 3523 | Soaps & cleansing preparations | 3.01 | |
| 3529 | Chemical products nec | 1.43 | |
| 353 | PETROLEUM REFINING | | 3.59 |

Table 7.1 CONTRIBUTION BY INDUSTRY TO THE GROSS DOMESTIC PRODUCT
OF THE MANUFACTURING SECTOR (Contd.)

| ISIC(1) | Industry | Contribution to GDP of Manufacturing | |
|----------------------|---|--|--------|
| 355 | MANUFACTURE OF RUBBER PRODUCTS | | 1.94 |
| 356 | MANUFACTURE OF PLASTIC PRODUCTS | | 0.82 |
| 361 | MANUFACTURE OF POTTERY, CHINA & EARTHENWARE | | 0.07 |
| 362 | MANUFACTURE OF GLASS & GLASS PRODUCTS | | 0.99 |
| 369 | MANUFACTURE OF OTHER NON-METALLIC MINERAL PRODUCTS: | | 4.93 |
| 3691 | Clay products | 0.09 | |
| 3692 | Cement & lime | 4.00 | |
| 3699 | Non-metallic mineral products nec | 0.84 | |
| 370 | BASIC METAL INDUSTRIES. | | 0.66 |
| 381 | MANUFACTURE OF FABRICATED METAL PRODUCTS EXCEPT MACHINERY: | | 6.38 |
| 3811 | Cutlery, hand tools & general hardware | 0.04 | |
| 3812 | Furniture & fixtures | 1.05 | |
| 3813 | Structural metal products | 1.27 | |
| 3819 | Fabricated metal products nec | 4.02 | |
| 382 | MANUFACTURE OF NON-ELECTRICAL MACHINERY | | 1.63 |
| 383 | MANUFACTURE OF ELECTRICAL MACHINERY & APPLIANCES | | 4.53 |
| 384 | MANUFACTURE OF TRANSPORT EQUIPMENT: | | 8.06 |
| 3841 | Shipbuilding & repairing | 1.70 | |
| 3842 | Railroad equipment | 2.77 | |
| 3843 | Motor vehicle bodies | 1.72 | |
| 3844 | Assembly of motorcycles & bicycles | 0.16 | |
| 3845 | Repair of aircraft | 1.71 | |
| 385 | MANUFACTURE OF PROFESSIONAL & SCIENTIFIC EQUIPMENT | | 0.04 |
| 390 | OTHER MANUFACTURING | | 1.85 |
| GDP OF MANUFACTURING | | | 100.00 |

(1) The International Standard Industrial Classification (ISIC) of the United Nations as modified to suit Kenya's needs. See Appendix 4.

directory(2) of such establishments maintained by the Central Bureau of Statistics. A rural establishment is put on the directory if it has a telephone or postal contact or is registered by the Registrar General's Department. In addition, a 25 per cent sample of urban establishments with less than 5 employees was also covered in the census. Amongst other information, details on sales, the value of increase in stocks of manufactured but unsold goods, the changes in stocks of raw materials and work in progress, intermediate consumption, labour costs, the consumption of fixed capital and on the number of employees were obtained from each establishment covered in the census.

(2) Directory of Industries, Central Bureau of Statistics, Nairobi, December 1974.

5. The Information obtained from the census is updated through the annual Survey of Manufacturing Industry. This survey covers all establishments employing 50 or more persons and a 25 per cent sample of the establishments employing 20 to 49 persons. The survey collects information similar to that obtained from the census. Hence, for establishments in these size groups, estimates can be made of the value of output, intermediate consumption, and value added and its components.

6. For establishments with less than 20 employees, which were covered in the census but are not covered in the annual survey, it is assumed that the annual percentage increase in the value of their output is the same as that for establishments with 20 to 49 employees. The annual Survey of Employees and Self-Employed Persons provides the wage bill for such establishments. A further assumption made is that the other components of value added, for these establishments with under 20 employees, have the same ratio to their labour costs as in the census year. Intermediate consumption of these establishments is obtained as a residual, that is, the difference between the estimated value of output and value added.

Private Sector: Other Rural Establishments

7. The value of output of this subsector is small, some 1 per cent of that for private sector manufacturing. The enterprises in this subsector manufacture mainly dairy and barley products, beer, textiles, clothing, footwear, wood and cork products, furniture and fixtures, pottery and clay products, soap and handicrafts; they also undertake tanning and curing of hides and skins, sawmilling, wood carving and boat building.

8. The Survey of Small Scale Rural Enterprises was held in 1972 to obtain information about such activities other than the manufacture of indigenous beers. Information was obtained on sales and the value of inputs. Since 1972, annual estimates have been obtained by running forward the 1972 figures on the value of output and intermediate consumption in line with an index of the estimated gross domestic product of the traditional economy at current prices.

9. The estimates on output and production of indigenous beer are made differently. The results from the Central Province Household Survey⁽³⁾ undertaken in 1963 indicated that an average of 10 shillings per household per week was spent on traditional alcoholic beverages. Multiplication of this figure by the number of rural households provided an estimate of the value of output. Intermediate consumption was assumed to be equal to 25 per cent of the value of output. The number of persons engaged in making beer was derived from the estimated volume of production and an assumed production of 780 gallons per person a year. An average price of 50 cents a pint was used to calculate the volume of output. Only 20 per cent of

(3) Economic Survey of Central Province 1963/64, Central Bureau of Statistics, Nairobi, 1968.

the persons engaged in the industry were assumed to be paid employees. The average wage of casual employees in agriculture - obtained from the annual Survey of Employees and Self-Employed Persons - was used to calculate the labour cost of paid employees. Subtraction of this figure from value added provided an estimate of operating surplus. As with other sectors and activities, the consumption of fixed capital is included in the operating surplus. These various estimates - of the value of output, intermediate consumption and labour costs - are run forward annually in line with the index of the estimated gross domestic product of the traditional economy referred to in the previous paragraph.

10. The estimates for this' subsector are rated at a low level of accuracy. It is recognized that for many of the activities value added is now underestimated. Household surveys recently undertaken will, it is hoped, give some clues on the extent of this underestimation.

Public Sector

11. Details - of those parastatal bodies undertaking enterprise activities in the manufacturing sector, and of those enterprises engaged in manufacturing and in which the public sector has a majority holding in their equity capital - are to be found in Appendix 5. In addition, the public sector includes the manufacturing enterprise activities of the Central Government and local authorities and those of their manufacturing activities that use technological processes similar to those used by the private sector. The Government Printer and the Ministry of Works are examples of the latter category. The manufacturing activities of the East African Community corporations that occur in Kenya are also part of the public sector.

12. The required information for parastatal bodies and for firms with a majority holding of equity capital by the public sector are obtained direct from the enterprises themselves, and that for the Government Printer and the Ministry of Works from the published accounts of the Central Government. The Ministry of Works also supplies supplementary information on an annual basis. The sources of information on the East African Community corporations are their annual reports and a special national accounts questionnaire which they complete each year. The method of analysis of the operations of these corporations is stated in further detail in Appendix 6.

ESTIMATES AT CONSTANT PRICES

Private Sector: Urban and Large Rural Establishments

13. Information is obtained monthly⁽⁴⁾ on the quantity of output of the most important products manufactured by enterprises in this sector. These products are stated in Table 7.2. A separate index of production is calculated for each 3-digit level of activity. Because the structure of industry is changing rapidly, a Fisher Ideal index is calculated by first calculating Laspeyre and Paasche Indices for each activity and then taking the geometric mean of these two indices to yield the composite index.

14. The constant price estimates are obtained by running forward base year estimates of the value of output and intermediate consumption for each 3-digit level of activity on the corresponding composite index of production.

Private Sector: Other Rural Establishments

15. The base year estimates of the value of output and intermediate consumption are run forward in line with an index of the estimated gross domestic product of the traditional economy at constant prices.

Public Sector

16. The same indices as those described above for urban and large rural establishments are applied to obtain estimates at constant prices.

Note: The questionnaire used for the annual Survey of Manufacturing Industry is fairly detailed and requires time to be completed accurately. Usually, the information provided by the survey is not available when the provisional estimates of the value of output and value added are prepared for the sector. Consequently, alternative sources and methods have to be resorted to. These are described in Appendix 8.

(4) The monthly Survey of Manufacturing Output. See Appendix 7 for further details.

Table 7.2 OUTPUT INDICATORS BY INDUSTRY

| ISIC(1) | Industry | Output Indicators | Unit |
|---------|--------------------------------------|---|--|
| 3111 | Meat products | beef pigs sheep & lambs goats | metric ton metric ton metric ton metric ton |
| 3112 | Dairy products | liquid milk production evaporated milk dried whole milk powders cheese dried skimmed milk powders butter ghee cream ice cream baby foods, milk base | litres metric ton metric ton metric ton metric ton metric ton metric ton metric ton litres metric ton |
| 3113 | Canned fruits & vegetables | fruits & vegetable juice, concentrated fruits & vegetable juice, unconcentrated canned fruits canned vegetables | metric ton litres litres metric ton metric ton |
| 3114 | Canning & preservation of fish | prepared & preserved fish | metric ton |
| 3115 | Oils & fats | edible fats ghee, vegetable edible oils margarine | metric ton metric ton litres metric ton |
| 3116 | Grain mill products | wheat flour wheat offals maize meal maize germ meal rice | metric ton metric ton metric ton metric ton metric ton |
| 3117 | Bakery products | bread scones cakes biscuits | metric ton metric ton metric ton metric ton |
| 3118 | Sugar refining | sugar mollasses | metric ton metric ton |
| 3119 | Sugar confectionary | sweets toffee chewing gum | metric ton metric ton metric ton |
| 3121 | Food products nec | black tea coffee milled coffee roasted coffee ground instant coffee cocoa milo salt cashew kernels curry powder/ground spices/custard powder & other products | metric ton metric ton metric ton metric ton metric ton metric ton metric ton metric ton metric ton metric ton metric ton |

Table 7.2 OUTPUT INDICATORS BY INDUSTRY (Contd.)

| ISIC(1) | Industry | Output Indicators | Unit |
|---------|----------------------------------|--|--|
| 3122 | Prepared animal feeds | cattle feeds pig feeds poultry feeds dog & cat feeds horse & other feeds | metric ton metric ton metric ton metric ton metric ton |
| 3131 | Spirits | spirits | litres |
| 3133 | Beer & malt | beer stout | litres litres |
| 3134 | Soft drinks & carbon waters | mineral waters concentrates for mineral waters | litres litres |
| 3140 | Tobacco manufactures | cigarettes tobacco manufactured | number metric ton |
| 3211 | Spinning, weaving & finishing | cotton woven fabrics woollen woven fabrics rayon fabrics polyester/viscose fabrics nylon fabrics | sq. meters sq. meters sq. meters sq. meters sq. meters |
| 3212 | Made-up textiles | blankets bedsheets gunny bags canvas bags canvas material | numbers sq. meters number sq. meters sq. meters |
| 3213 | Knitting mills | pullovers jumpers & jerseys cardigans knitted fabrics socks & stockings | dozens dozens dozens sq. meters dozens |
| 3215 | Cordage, rope & twine industries | ropes & twine | metric ton |
| 3216 | Cotton ginneries | cotton lint ginned cotton | metric ton |
| 3220 | Manufacture of clothing | shirts, sports & T- shirts trousers uniform & overalls dresses vests, singlets & underwear | dozens dozens dozens dozens dozens |
| 3231 | Tanneries & leather finishing | finished leather unfinished leather PVC leather cloth sheep & goat skins sole leather | sq. meters sq. meters sq. meters number metric ton |
| 3233 | Leather products | sporting balls | number |
| 3240 | Manufacture of footwear | leather shoes | pairs |

Table 7.2 OUTPUT INDICATORS BY INDUSTRY (Contd.)

| ISIC(1) | Industry | Output Indicators | Unit |
|--------------|-------------------------------------|--|---|
| 3311 3319 | Manufacture of cork & wood products | production of forest timber | cubic meters |
| 3320 | Manufacture of furniture & fixtures | employment | numbers |
| 3411 | Paper manufacturing | kraft paper wrapping paper cream wove duplicating paper other papers imparted kraft paper | metric ton metric ton metric ton metric ton metric ton metric ton |
| 3419 | Paper products | paper bags paper sacks packing containers toilet paper rolls exercise books other stationary (bags) | metric ton metric ton metric ton metric ton dozens numbers |
| 3420 | Printing & publishing | imports of newsprint paper imports of other printing paper locally made paper | metric ton metric ton metric ton |
| 3511 | Basic industrial chemicals | oxygen/nitrogen/hydrogen acetylene electrodes methylated spirits other chemicals | cubic meters cubic meters metric tons litres metric tons |
| 3512 | Pyrethrum extraction | pyrethrum extract pyrethrum powder | metric ton metric ton |
| 3513 | Wattle bark processing | wattle extract | metric ton |
| 3514 | Fertilizers & pesticides | fertilizers aerosols, solid insecticides, liquid & gaseous insecticides, solid fungicides herbicides vaccines cattle dips other pesticides herbicides | metric ton metric ton litres metric ton metric ton metric ton numbers litres metric ton litres |
| 3521 | Paints, varnishes & lacquers | paints distempers varnishes & lacquers | litres litres litres |
| 3522 | Drugs & medicines | drugs, tablets drugs, liquid pharmaceuticals cattle supplements | numbers litres dozens metric ton |

Table 7.2 OUTPUT INDICATORS BY INDUSTRY (Contd.)

| ISIC(1) | Industry | Output Indicators | Unit |
|-----------|---|--|---|
| 3523 | Soaps & cleansing preparations | laundry soap washing soap soap powder toothpaste | metric ton metric ton metric ton metric ton |
| 3529 | Chemical products nec | matches shoe polish resin emulsions | boxes kilograms kilograms |
| 3530 | Petroleum refining | lubricating petroleum grease motor spirit kerosene diesel fuel oils residue gas oil bitumen | litres litres litres litres litres litres litres litres |
| 3550 | Manufacture of rubber products | new motor vehicle tyres new motor vehicle tubes retreaded vehicle tyres new bicycle tyres new bicycle tubes rubber shoes rubber soles | number number number number number pairs pairs |
| 3560 | Manufacture of plastic products | PVC pipes plastic shoes polythene film & bags plastic containers plastic crates, all types plastic holloware | metric ton pairs metric ton number number dozen |
| 3620 | Manufacture of glass & glass products | glass bottles glass jars & plates | metric ton metric ton |
| 3691-3699 | Manufacture of other non-metallic mineral products | cement clinker lime other cement products | metric ton metric ton metric ton metric ton |
| 3811-3819 | Manufacture of fabricated metal products except machinery | steel wool galvanised corrugated iron sheets iron bars 4 rods sufurias enamel holloware reconditioned drums plates & profiles metal pipes jembes padlocks metal cans & tins nails barbed wires corks welded mesh razor blades | metric ton metric ton metric ton number dozen number metric ton metric ton number number number number metric ton metric ton metric ton metric ton number |

Table 7.2 OUTPUT INDICATORS BY INDUSTRY (Contd.)

| ISIC(1) | Industry | Output Indicators | Unit |
|-----------|--|--|--|
| 3811-3819 | Manufacture of fabricated metal products except machinery (Contd.) | sheet metal furniture (cupboards, cabinets, etc) tubular furniture (tables & chairs) steel drums, kegs & pails | number number number |
| 3820 | Manufacture of non-electrical machinery | employment | number |
| 3830 | Manufacture of electrical machinery & appliances | dry cells assembled radio kits motor vehicle batteries electric lamps gramophone records battery plates | number number number number number number |
| 3841-3845 | Manufacture of transport equipment | assembled vehicles coaches & bus bodies lorry bodies | number number |
| 3900 | Other manufacturing | ball point pens household brushes industrial brushes paint brushes | number number number number |

- (1) The International Standard Industrial Classification (ISIC) of the United Nations as modified to suit Kenya's needs. See Appendix 4.

Chapter 8

BUILDING AND CONSTRUCTION

1. The sector contributes about 6 per cent to Kenya's gross domestic product.

The production of the sector is estimated as follows:

- Monetary Economy: Private Sector:
 - Private contractors.
 - Own account building and construction activities of:
 - large farms,
 - East African Power and Lighting Company Ltd.
- Monetary Economy: Public Sector:
 - Own account building and construction activities of:
 - East African Railways Corporation,
 - East African Harbours Corporation,
 - East African Posts and Telecommunications Corporation,
 - Ministry of Works,
 - Forest Department,
 - local authorities.
- Traditional Economy:
 - Capital formation:
 - self-help schemes,
 - building of huts and associated structures.
- Maintenance.

ESTIMATES AT CURRENT PRICES

Monetary Economy: Private Sector

2. The 1972 Census of Industry(1) covered all establishments of building and construction contractors employing 5 or more persons, and a 25 per cent sample of those employing less than 5 persons. In the census, detailed information about the

(1) See Appendix 7 for further details on this census.

value of output, intermediate consumption, labour costs, and other aggregates related to production was collected. There is always a possibility of duplication in the information on production supplied by the contractors, for contractors subcontract out work to other contractors. Information on the value of work subcontracted was specifically obtained by the census to obviate this.

3. Each year⁽²⁾, information similar to that collected in the census is obtained from all contractors with 50 or more employees, and from a 25 per cent sample of contractors with 20 to 49 employees. Accordingly, for contractors in these size groups, estimates can be made of the value of output, intermediate consumption, value added, and the components of value added.

4. For contractors having less than 20 employees, it is assumed that the percentage change in the value of their output since the census year is the same as that of contractors with 20 to 49 employees. The wage bill of these small contractors is supplied by the annual Survey of Employees and Self-Employed Persons. The further assumption is made that the other components of their value added remain in the same ratio to their labour costs as in the census year. Intermediate consumption for these small contractors is obtained as the difference between the estimates of the value of output and value added.

5. The annual Census of Large Farms provides information on the value of residential and non-residential building and other construction work undertaken on large farms. From this total, the value of building work undertaken on large farms by contractors is subtracted, to avoid double counting. Of the total building and construction work undertaken on large farms, 14 per cent is taken as being contracted out. This figure is based on an ad hoc enquiry made with large farms a few years ago.

6. Expenditure by large farms on maintenance of building and construction works is assumed to be 10 per cent of their own account expenditure on building and construction, that is, the total after the value of work contracted out has been deducted. Labour costs are estimated as being equal to 20 per cent of the value of own account construction. This figure is based on the proportion of contractors' labour costs to the value of output for similar construction work. Since no imputation is made for a return on the assets employed in such building and construction, intermediate consumption of large farms is the difference between their value of output and labour costs.

(2) Through the annual Survey of Building Contractors. See Appendix 7 for further details on this survey and also for details on the annual Survey of Employees and Self-Employed Persons and the annual Census of Large Farms which are mentioned later in the chapter.

7. The East African Power and Lighting Company annually provides the information needed on the value of its own account building and construction activities.

Monetary Economy: Public Sector

8. The East African Railways Corporation, the East African Harbours Corporation and the East African Posts and Telecommunications Corporation all undertake own account building and construction activities. The method of analysis of the activities of these corporations is noted in some detail in Appendix 6.

9. For the Ministry of Works, the source of information is the accounts of the Central Government supplemented by special information from the Ministry of Works itself. The value of output - equal to total expenditures on goods and services and personal emoluments - is obtained from the recurrent and development accounts. The value of output is then broken down by economic activity into the value of manufacturing output, the value of building and construction, and the value of new purchases of machinery and equipment. This is done by allocating all recognizable expenditure to one of these categories and then prorating headquarter expenditure on personal emoluments and other non-specific expenditures in proportion to the value of the expenditures already allocated.

10. From the value of building and construction so derived is deducted the value of building and construction work contracted out in order to obtain the value of output on own account. To this value of output of own account building are added two imputed values, namely, the employer's contribution to pensions and the value of consumption of fixed capital. The latter is based on the average replacement cost of lorries and road building equipment during the previous three years.

11. Further, a scrutiny of the relevant expenditures, together with some additional prorations, enables the value of output to be split between maintenance and capital expenditures on residential and non-residential building, and on roads and other construction works.

12. The estimates of the value of own account building and construction work undertaken by the Forest Department are made from the information supplied annually by the Department.

13. All local authorities are circulated for information on the value of residential and non-residential buildings and other construction work undertaken every year; information on labour costs is also obtained. Maintenance expenditure is assumed to be equal to 10 per cent of the value of such capital expenditure. The two together give the total value of output of building and construction by local authorities. The value of work contracted out is estimated at 56.8 per cent of the value of output; this is deducted from the total output to obtain the value of output of own account work. This percentage deduction is based on an ad hoc

enquiry conducted some years ago. Intermediate consumption is calculated as the difference between the value of own account output and labour costs. No imputations are made for the consumption of fixed capital.

Monetary Economy: Eliminating Discrepancy

14. The value of output so derived obviously needs to tie in with the estimate of capital expenditure on building and construction obtained from the expenditure side as detailed in Chapter 16. In fact, there always is a discrepancy. The problem of eliminating this discrepancy, is confined solely to the monetary economy.

15. The first step in eliminating the discrepancy is to estimate the maintenance component in the value of output of building and construction, since it is impossible for building contractors and others engaged in this activity to subdivide realistically their output into its maintenance and capital formation components. Hence, alternative means are adopted to estimate the maintenance component. The value of maintenance on residential buildings is, as explained in Chapter 13, estimated as an input into ownership of dwellings and the same estimate is used in this calculation. Maintenance expenditure on roads and non-residential buildings owned by the Central Government is obtained from its accounts. The only missing estimate then left to be computed is the value of maintenance on private non-residential buildings. To estimate this, investment at constant prices in private non-residential building during each of the past 10 years is aggregated and added to a similar estimate for the 25 years prior to this period. Since no data exist for this later period, the estimated value of private non-residential buildings built during this latter period is based on the assumption that the annual rate of growth of such investment was equal to that of the immediate past decade. The life of a non-residential building is assumed to be 35 years. The estimate on the stock of non-residential buildings at constant prices is next converted to current prices using the Non-Residential Building Cost Index⁽³⁾. Two per cent of this estimated replacement cost is taken as the value of maintenance work on these buildings. The various estimates of maintenance - on residential and non-residential buildings and on other construction works - are then added to obtain the overall estimate on the value of maintenance.

16. This estimate of maintenance is added to the estimate of capital formation in buildings and construction works obtained from the expenditure side. The capital formation estimate, however, is first revalued at producer prices. The estimates of capital formation from the expenditure side are adopted since they are believed to be more reliable than those from the production side. The final step is to revise the original estimates of intermediate consumption and value added. These are multiplied by the ratio of the revised value of the output of building and construction to the original value.

(3) See footnote 4.

Traditional Economy

17. Self-help schemes are very varied. They consist of schemes to build residential and non-residential buildings and undertake construction and land improvement. The cost of paid labour and materials constitutes the value of output. In the absence of any information about the number of voluntary workers or the hours of work they put in, no imputation is possible to cover such labour costs.

18. With hut building, the first step is to obtain an estimate of the number of huts in various rural areas in the traditional economy. "Rural areas" are defined as those outside the boundaries of municipal and local authority areas. Because of regional differences in types of hut, the country's rural areas are divided into advanced areas, intermediate areas and remote areas - the areas being related to the quality of structures observed in them. Western Province, Central Province, and Machakos District of Eastern Province constitute the advanced area. Nyanza Province and parts of Rift Valley Province and Eastern Province form the intermediate area. The rest of Rift Valley Province and Eastern Province and the whole of Coast Province make up the remote area.

19. Information about the number of huts in each area was originally obtained from an ad hoc enquiry in 1966. The assumption is made that the total number of huts increases at the same rate as population growth, namely by 3.3 per cent a year. It is also assumed that varying percentages of the housing stock in each area must be replaced. The percentage that has to be replaced depends on the climatic conditions and the quality of existing structures. In the advanced and intermediate areas it is put at 8.1 per cent, and in the remote areas - except in Kilifi, Kwale and Taita districts of the Coast Province - at 8.7 per cent. In Kilifi, Kwale and Taita districts, it is put at 5.4 per cent. Thus, by applying both the growth and replacement percentages to the stock of huts in each area at the beginning of the year, an estimate is obtained of the number of new huts built in each area.

20. New huts are classified into types A and B. The assumption is made that type A huts constitute 20 per cent of the new huts built in Machakos District and Western Province, 33.3 per cent in Central Province and 10 per cent in the intermediate area. No type A huts are assumed to be built in the remote areas.

21. A special study was undertaken in 1967 to cost type A and B huts in these various areas. Included are labour costs, imputed from the labour needed to build such huts and the wage rates of casual agricultural labour. Such costs are run forward annually in line with an index of wage rates of casual agricultural labour derived from information supplied by the annual Survey of Employees and Self-Employed Persons. Multiplication of the estimated number of new type A and B huts built in each area by the relevant costs provides an estimate, on aggregation, of the total value of hut building activity. As inferred in paragraph 19, the new

huts built include those built to replace existing huts. A further annual addition of 1 per cent of the total value is made to reflect the improving quality of huts built.

22. The cost of the construction of kitchens and stores is put at 8 per cent of the value of huts built.

23. Varying costs are associated with the latrines for A and B type huts in different areas. These costs, together with the estimated number of latrines built - related to the number of new huts built, enable an estimate of the aggregate cost to be made.

24. The total value of output of self-help schemes, of hut building, of kitchens and stores, and of latrines gives the overall figure of gross capital formation. Maintenance, assumed to be equal to 25 per cent of gross capital formation, is added to obtain an estimate of the value of output of building and construction in the traditional economy.

25. Inputs consist of posts and poles from forestry output and inputs from the manufacturing sector. The former is put at 9 per cent of the value of output and the latter at 10 per cent. These percentages are based on ad hoc enquiries. Subtraction of intermediate consumption from the value of output provides the needed estimate of value added.

ESTIMATES AT CONSTANT PRICES

Monetary Economy

26. Separate cost indices are calculated for residential buildings, non-residential buildings and civil engineering projects⁽⁴⁾. The indices take into account labour costs, the costs of inputs and the depreciation of plant and machinery. The weights were derived from the ratios of the various material inputs, labour costs, and the depreciation of plant and machinery to total costs.

27. The value of output at constant prices is derived by deflating the components of the value of output - residential building, non-residential building and road construction - by the appropriate cost index, namely, the Building Cost Index, the Non-Residential Building Cost Index and the Civil Engineering Cost Index. For other construction, the deflator is the weighted average of the Non-Residential Building Cost Index and the Civil Engineering Cost Index. Base year figures of intermediate consumption and value added are run forward in line with the value of output at constant prices.

(4) Published quarterly in the Kenya Statistical Digest and annually in the Statistical Abstract. Details of the method of calculation are to be found in Construction Cost Index, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, December 1975.

28. Before these cost indices are applied, however, they are lagged. This small refinement is to take cognizance of the probable fact that materials being used at a particular time by contractors were purchased 3 months earlier. Thus, in the calculation of the cost indices for the current quarter, the prices of materials in the previous quarter and wage rates in the current quarter are used.

Traditional Economy

29. The value of output of self-help schemes is deflated by an index of wage rates of casual agricultural labour obtained from the annual Survey of Employees and Self-Employed Persons.

30. The value of hut building is recalculated using the same methods as those used in computing the output at current prices except that the costs of A and B type huts and of latrine construction are all kept constant.

Note: The questionnaire used for the annual Survey of Building Contractors is fairly detailed and requires time to be completed accurately. Usually, the information provided by the survey is not available when the provisional estimates of the value of output and value added are prepared for the sector. Consequently, alternative sources and methods have to be resorted to. These are described in Appendix 8.

Chapter 9

ELECTRICITY, GAS AND WATER

1. This sector contributes about 2 per cent to Kenya's gross domestic product.

The sector is divided into:

- Electricity.
- Water:
 - Monetary economy.
 - Traditional economy.

ESTIMATES AT CURRENT PRICES

Electricity

2. All the information required - value of output, intermediate consumption, personal emoluments, consumption of fixed capital, etc. - is received from the two enterprises undertaking generation and distribution of electricity in the country.

Water

3. In the monetary economy, the collection, processing and distribution of water is mainly a public sector activity undertaken by the Ministry of Water Development, the Mombasa Water Supply, the Mombasa Pipeline Board, and by the water departments of various local authorities. A trifling amount of activity is also undertaken by private enterprises. The relevant information on the operations of the public sector institutions and enterprises engaged in this activity is readily available from their published accounts. The private concerns are covered by the annual Survey of Employees and Self-Employed Persons(1), from where information about their total labour costs is obtained. It is assumed that the ratios of the value of output and of intermediate consumption to labour costs prevailing for the water departments of municipal councils are also relevant to these private concerns. The

(1) See Appendix 7 for further details on this survey.

value of output, so determined, of these private concerns is less than 0.5 per cent of the total value of output.

4. For the traditional economy, the value of output is based on the number of rural households outside pastoral areas, the estimated number of woman hours per household spent a year in drawing water, and the opportunity cost of such labour. The alternative to drawing water is taken to be farm work; and the average wage for casual adult females working on small farms and settlement schemes - the same rate as used for firewood collection - is taken to measure the opportunity cost. Since intermediate consumption is irrelevant, value added equals the value of output. The imputation is only made for rural households living in non-pastoral areas. In pastoral areas no alternative employment is thought to exist.

ESTIMATES AT CONSTANT PRICES

Electricity

5. The base year estimates are run forward on an index of kilowatt hour output.

Water

6. The method of obtaining constant price estimates for the monetary economy is the same as that for electricity. The index in this case is based on the quantity of water sold for consumption by the water supply authorities of Mombasa and Nairobi Municipalities.

7. For the traditional economy, the calculations undertaken to obtain the value of output of water supplies at current prices are repeated - but the average wage for casual adult females working on small farms and settlement schemes of the base year is used instead of that of the current year.

Chapter 10

DISTRIBUTION

1. This sector contributes about 10 per cent to the total gross domestic product of Kenya. Separate estimates of output and value added are made for enterprises engaged in:

- Wholesale and Retail Trade (petrol and oil products excluded):
 - Joint wholesale and retail trade.
 - Wholesale trade.
 - Retail trade.
- Trade in Petrol and Oil Products:
 - Wholesale.
 - Retail.
- Marketing Boards⁽¹⁾.
- Rural Trade.
- Restaurants, Cafes and Hotels:
 - Restaurants and cafes.
 - Hotels.

2. As with the other sectors of activity, the estimates of value added are subdivided into personal emoluments and operating surplus. However, as already mentioned in Chapter 2, no attempt is made to impute wages and salaries in cases where the enterprise is run by the owner and his family. Accordingly, the operating surplus, especially of enterprises in the smallest size class, contains a large labour element.

(1) See footnote 2 of Chapter 2 for definition.

ESTIMATES AT CURRENT PRICES

Wholesale and Retail Trade (petrol and oil products excluded)

3. A sample survey of enterprises engaged in distribution was concluded some years ago⁽²⁾. Along with other characteristics, the enterprises covered in the survey were classified as to whether they were engaged in both wholesale and retail trade or whether they were engaged in wholesale trade or retail trade only. For each of these three types of enterprises, information was collected on the value of sales, changes in stocks, intermediate consumption, value added and labour costs. In addition, Information was obtained on the expenditure incurred by the respondents on Kenya manufactured goods, Kenya agricultural produce. Imports from Uganda and Tanzania, and imports from the rest of the world. The annual estimates of output and value added for the three types of enterprises specified above are based on the breakdown of expenditure on these four categories of throughputs.

4. As a preliminary step, certain ratios were calculated for the base year. Amongst these were the ratio of the value of each throughput to the value of its total domestic production or import and the ratio of value added to the value of aggregate throughputs. Information from the Survey of Distribution, the national accounts questionnaire and the annual Trade Report of the East African Customs and Excise Department was used in making these calculations. More specifically, the throughputs handled by enterprises engaged either in joint wholesale and retail trade, in wholesale trade, or in retail trade were defined as:

- The total value of manufacturing output in Kenya less that of the public corporations.
- The total value of sales of agricultural produce less the value of sales of marketing boards.
- The total value, inclusive of import duty, of imports into Kenya from Uganda and Tanzania.
- The total value, inclusive of import duty, of imports into Kenya from the rest of the world , plus the value of foreign goods transferred from Kenya to Uganda and Tanzania.

5. Separately for each of the three categories of enterprises, the calculations for the estimates of value added and its components, and of output are undertaken as follows. Firstly, the base year ratios of each throughput to its total domestic production or import are applied to the relevant current year totals. This provides an estimate of the value of each of these throughputs for the current year.

(2) The 1971 Survey of Distribution. See Appendix 7 for further details on this survey and also for details on the quarterly Business Expectations Enquiry, the 1972 Survey of Small Scale Rural Enterprises, the 1975 Survey of Services and the annual Survey of Employees and Self-Employed Persons which are mentioned later in the chapter.

Next, these current year values are aggregated and the aggregate is adjusted for the value of the change in stocky in the current year. This value is obtained from the quarterly Business Expectations Enquiry. The base year ratio of value added to the value of aggregate throughputs is then applied to the adjusted value of aggregate throughputs for the current year to provide an estimate of value added for the current year. This estimate is then subdivided into its components - personal emoluments and operating surplus - using the proportion composition of the base year. Finally, output is estimated using the base year ratio of value added to output. These calculations are all founded on the assumption that the base year ratios remain unchanged. This is a questionable assumption, at least in the long run.

Trade in Petrol and Oil Products.

6. Since the number of firms engaged in wholesale distribution of petrol and oil products is small, all the firms are circulated annually. They provide the needed information on the value of output, intermediate consumption, and value added and its components.

7. For the firms engaged in retail distribution of petrol and oil products, base year figures on the value of their output, intermediate consumption, value added, and the components of value added were obtained in the 1971 Survey of Distribution. The base year estimate of value added is run forward on the value of petroleum and oil products entering the Kenya market in the current year. This is estimated as the sum of the total value of imports of final products, plus domestic production, less the value of transfers to Uganda and Tanzania, plus import duties and sales tax on the value of products entering the Kenya market. Value added is subdivided into its components on the assumption that the composition of value added remains proportionately the same as in the base year. Similarly, output is estimated on the assumption that the ratio of the value of output to value added remains the same as in the base year.

Marketing Boards

8. The necessary information on the values of all relevant aggregates is obtained annually from the pertinent boards.

Rural Trade

9. The 1972 Survey of Small Scale Rural Enterprises provided data on the value of output, intermediate consumption, and value added and its components for enterprises engaged in distribution in rural areas. An index of the value of IRS farm sales - derived as stated in Chapter 3 - is used to run forward these estimates. Personal emoluments and operating surplus are assumed to be in the same proportion to value added as in the base year.

Restaurants, Cafes and Hotels

10. The 1975 Survey of Services obtained the requisite information on cafes and restaurants in urban areas and also for the larger cafes and restaurants in rural areas. The data was analyzed separately for restaurants and cafes with 50 or more employees, 20 to 49 employees, and 0 to 19 employees; and the value of output, intermediate consumption, value added and the wage bill were determined for each size class. The annual Survey of Employees and Self-Employed Persons provides figures on the wage bill in the current year. Again, base year ratios - of the wage bill to value added and of value added to the value of output - for each size class are applied to the current year wage bill to estimate the relevant aggregates for the current year. As before, the components of value added are assumed to be in the same proportion as in the base year.

11. Small cafes in rural areas were covered in the 1972 Survey of Small Scale Rural Enterprises. Base year figures on the value of output, intermediate consumption, value added and labour costs are all run forward annually in line with the index of the value of sales of IRS farms mentioned in paragraph 9.

12. Information on output and intermediate consumption of hotels, and on value added and its components was also obtained in the 1975 Survey of Services. The estimates for the current year are made in exactly the same way as that described for cafes and restaurants in paragraph 10.

ESTIMATES AT CONSTANT PRICES

Wholesale and Retail Trade (petrol and oil products excluded)

13. The ratios stated in paragraphs 4 and 5 are again used. The difference, however, is that the base year ratios of the value of each throughput to its total domestic production or import are applied to the current year estimates of the relevant domestic production or imports at constant prices. The total value at constant prices of manufacturing output is obtained by running forward base year figures at the 3-digit level of activity on the appropriate index of physical output as described in Chapter 7. The value of agricultural output at constant prices is obtained by valuing physical outputs at base year prices; imports from Uganda and Tanzania and those from the rest of the world are deflated by the relevant Import Price Indices⁽³⁾.

(3) See footnote 6 of Chapter 3.

Trade in Petrol and Oil Products

14. Estimates on the value of output, intermediate consumption and value added at constant prices for the enterprises engaged in wholesale and retail distribution of petrol and oil products are run forward on the value at constant prices of petrol and oil products entering the Kenya market. The petrol and oil products entering the Kenya market consist of the several items noted in paragraph 7. The value of each item at current prices is deflated by a price index; imports of petroleum products, other than crude oil, by a price Index for such products; output from the refinery by an index derived from the weighted average of the price relatives of the major products of the refinery; and transfers to Uganda and Tanzania by the pertinent Export Price Index⁽⁴⁾. Import duties and sales tax are taken to be a constant proportion of the value of petrol and oil products entering the Kenya market, namely, the same proportion as in the base year.

Marketing Boards

15. Base year estimates are run forward on the pertinent index of throughputs at constant prices.

Rural Trade

16. Base year estimates are run forward on an index of the value of IRS farm sales at constant prices.

Restaurants, Cafes and Hotels

17. The aggregate value of output and of value added from restaurants, cafes and hotels in the base year are run forward on the basis of an index of hotel bed occupancy. This indicator is used because hotels contribute most to the value added from this group of activities.

(4) See footnote 6 of Chapter 3.

Chapter 11

TRANSPORT, STORAGE AND COMMUNICATIONS

1. This sector contributes some 9 per cent to the annual gross domestic product of Kenya. The sector's activities are varied and consist of:

- Railway Transport.
- Urban, Sub-Urban and Inter-Urban Highway Passenger Transport.
- Freight Transport by Road.
- Ocean and Coastal Water Transport.
- Inland Water Transport.
- Supporting Services to Water Transport.
- Air Transport Carriers.
- Supporting Services to Air Transport.
- Booking and Travel Agencies.
- Storage and Warehousing.
- Communications.

2. Estimates of output, intermediate consumption and value added are made separately for each of the activities listed. The estimates of value added are also broken down into personal emoluments and operating surplus. As was stated in Chapter 2, the operating surplus contains a substantial labour element as no imputations are made for the wages and salaries of self-employed persons and unpaid family workers. Nevertheless, for certain activities of the sector, imputations are made to remove from personal emoluments the operating surplus accruing to self-employed operators. Such imputations are indicated later under the relevant activities. They are somewhat arbitrary and undoubtedly also include labour costs.

ESTIMATES AT CURRENT PRICES

Railway Transport

3. The annual report of the East African Railways Corporation and the special national accounts questionnaire completed by it each year are the main sources of data used to compute the Corporation's output and its value added. The Corporation subclassifies its current revenues and expenditures in Kenya into those of railway operations, water transport, restaurant cars and station buffets. However, in the national accounts questionnaire, additional information is provided with sufficient disaggregation to enable the manufacturing and the building and construction activities of the Corporation to be identified and isolated. Details of the analysis of the Corporation's activities are given in Appendix 6. All that needs to be noted here is that only the railway operations and the operation of restaurant cars and station buffets are included under the railway transport operations of the Corporation.

Urban, Sub-Urban and Inter-Urban Highway Passenger Transport

4. The enterprises engaged in this activity consist of those operating buses and those operating taxis, utility vans and minibuses. The data on the value of output, intermediate consumption and labour costs for the operation of buses are obtained from a few of the major enterprises engaged in this activity. The ratios of the value of their output and intermediate consumption to labour costs are calculated and then applied to the estimated labour costs of other bus operators to obtain estimates of the value of their output and intermediate consumption. The labour costs of these other enterprises are estimated from the number of buses registered, an assumed ratio of 3 operators per bus, and an average wage rate for such persons obtained through the annual Survey of Employees and Self-Employed Persons⁽¹⁾.

5. Firms with 20 or more employees operating taxis, minibuses and passenger carrying utility vans are surveyed annually. For each type of vehicle, figures are obtained on the value of output, intermediate consumption and labour costs. Ratios of the value of output and intermediate consumption to labour costs are then calculated and these are applied to the estimated labour costs of unsurveyed firms in each category. Again estimates of these labour costs are derived from the number of such vehicles registered, the number of operators per vehicle, and an average wage rate supplied by the annual Survey of Employees and Self-Employed Persons. The numbers of operators per taxi, minibus and lorry are put at 1.04, 1.10 and 1.40 respectively. These averages are based on information collected in a benchmark enquiry a few years ago. The sum of the value of output of the sur-

(1) See Appendix 7 for further details on this survey.

vayed and unsurveyed firms, and similarly of their intermediate consumption, provides the needed estimates for the activity. Value added is derived as the difference between the value of output and intermediate consumption. Beforehand, however, 25 per cent of the labour costs of the unsurveyed enterprises is deducted from the total labour costs of all enterprises to take account of the number of operators thought to be self-employed. It is this adjusted labour cost that is deducted from value added to obtain the operating surplus. As with other sectors and activities, the consumption of fixed capital is included in the operating surplus.

Freight Transport by Road

6. This activity is undertaken both by private enterprises and by an enterprise in the public sector. Information on the operations of the latter is obtained direct from the enterprise itself.

7. The method of obtaining estimates of output and value added for the private enterprises is almost identical with that just mentioned in paragraph 5. Figures on the value of output, intermediate consumption and labour costs of enterprises with 20 or more employees are obtained from them annually; and the ratios of their value of output and their intermediate consumption to their labour costs calculated. These ratios are then applied to the imputed labour costs of unsurveyed enterprises. The labour costs of these unsurveyed enterprises are based on the number of vehicle licences issued and an assumed number of 2.5 operators per vehicle. This yields the number of operators engaged in this activity. The wage bill of such operators is derived by multiplying their number by the average wage rate for the activity supplied by the annual Survey of Employees and Self-Employed Persons. Here, too, before the operating surplus is calculated, 25 per cent is deducted from the estimated labour costs of the unsurveyed firms to take account of the number of operators assumed to be self-employed.

Ocean and Coastal Water Transport

8. The Eastern Africa National Shipping Line is the only public enterprise undertaking this activity. Information on its operations is obtained from the annual national accounts questionnaire and from its annual report. Details on the analysis of its operations are noted in Appendix 6. Information on the operations of the only private enterprise undertaking this activity is obtained directly from the enterprise.

9. At present, the activities of smaller vessels - dhows and the like - plying in coastal waters and based on Kenya ports are not covered. An attempt is to be made to obtain from the Marine Authorities the numbers of such vessels classified by tonnage. The Marine Authorities will also be asked to estimate the number of operators for vessels of different sizes and to advise on the average revenue figures per operator.

Inland Water Transport

10. This activity is undertaken by the East African Railways Corporation and a private enterprise. The information on their operations is obtained directly.

Supporting Services to Water Transport

11. The bulk of value added in this activity is contributed by the East African Harbours Corporation. As with other East African Community corporations, the required information is obtained from the annual national accounts questionnaire and the Corporation's annual report. The analysis is stated in Appendix 6. Other supporting services are those provided by the local offices of foreign shipping lines.

12. For these, information is obtained from the large offices through an annual questionnaire; ratios of the value of output and intermediate consumption to their labour costs are calculated from it. These ratios are then applied to the estimated labour costs of the unsurveyed offices. The labour costs of the unsurveyed offices are obtained from the annual Survey of Employees and Self-Employed Persons. The local offices of foreign shipping lines are treated as agents of their foreign principals. Accordingly, value added consists of wages and salaries only. Consumption of fixed capital is not relevant since it is insignificant in value.

Air Transport Carriers

13. The sources of information for the East African Airways Corporation, the main enterprise engaged in this activity, are the same as for the other East African Community corporations. The analysis is given in Appendix 6. The required data for private firms operating as charter services are obtained from them directly. Private flying clubs are included with the non-profit institutions serving households.

Supporting Services to Air Transport

14. Information on revenue and expenditures relating to the activities at airports of the Ministry of Power and Communications is obtained from the Ministry. Such activities of the Ministry are excluded from those of producers of government services and included here as those of a public enterprise. Landing fees are the main source of revenue for this activity. The other supporting services are those of the offices of foreign airlines. Their operations are treated in the same way as those of the offices of foreign shipping lines described above in paragraph 12.

Booking and Travel Agencies

15. The public sector component of this activity consists of the Government Coast Agency which does the booking of passengers and clearing of goods for the Government. Its activities are included with those of public enterprises - and not with those of producers of government services - because it operates in the same way as similar agencies in the private sector.

16. All private booking and travel agencies with 20 or more employees are covered in an annual survey which provides information on their operations. The usual ratios of the value of output and intermediate consumption to labour costs are calculated and then applied to the labour costs of the unsurveyed firms obtained from the annual Survey of Employees and Self-Employed Persons. This procedure gives the required estimates of the value of output and value added for these firms.

Storage and Warehousing

17. The required information on enterprises with 20 or more employees engaged in this activity is obtained directly. The estimates on the operations of the smaller enterprises are derived by applying the now familiar ratios, calculated from the information supplied by the large enterprises, to their labour costs obtained through the annual Survey of Employees and Self-Employed Persons.

Communications

18. The East African Posts and Telecommunications Corporation is by far the largest contributor to the value added of this activity. As with the other East African Community corporations, the national accounts questionnaire and the annual report are the main sources of information. The analysis of this information is detailed in Appendix 6. Information for the East African External Telecommunication Company, another public enterprise and which is owned by the East African Posts and Telecommunications Corporation, is obtained directly from the enterprise. There are no private enterprises engaged in this activity.

ESTIMATES AT CONSTANT PRICES

Railway Transport

19. A price index - a weighted average of revenue per ton mile and revenue per passenger mile - is used to deflate railway revenue at current prices. All estimates for the base year are then run forward on this index of railway revenues at constant prices.

Urban, Sub-Urban and Inter-Urban Highway Passenger Transport

20. An index of costs - based on the prices of fuel, other inputs and wage rates - is used to deflate the current price estimates of bus firms. A quantity index - based on the number of vehicles licensed - is used to run forward the base year estimates of the value of output, intermediate consumption and value added for taxis, minibuses and passenger carrying utility vans.

Freight Transport by Road

21. With freight transport too, a quantity index based on the number of vehicles licensed is used to run forward the base year estimates.

Ocean and Coastal Water Transport

22. The base year estimates of value of output, intermediate consumption and value added are all run forward on an index of freight tons carried by the Eastern Africa National Shipping Line.

Inland Water Transport

23. A quantity index based on the number of passenger journeys is used to run forward the relevant base year estimates of the East African Railways Corporation and of the private enterprise undertaking this activity.

Supporting Services to Water Transport

24. The relevant current price estimates of the East African Harbours Corporation are deflated by a price index of revenue per ton handled. Those for the local offices of foreign shipping lines are deflated by an index of wage rates derived from information provided by the annual Survey of Employees and Self-Employed Persons.

Air Transport Carriers

25. Indices based on average revenue per passenger mile and per ton mile are used to deflate the revenue of the East African Airways Corporation and other aircraft companies from current to constant prices. An index of revenue at constant prices is then used to run forward all other base year estimates.

Supporting Services to Air Transport

26. The value of output, except for aircraft landing fees, and intermediate consumption of the aerodrome services provided by the Ministry of Power and Communications are deflated by an index of wage rates for the activity derived from infor-

mation supplied by the annual Survey of Employees and Self-Employed Persons. The base year figure for aircraft landing fees is run forward on an index of the number of aircraft landings.

27. Salaries and wages paid by foreign airline offices - the sole component of their value added - are deflated by an index of wage rates for the activity based on information provided by the annual Survey of Employees and Self-Employed Persons.

Booking and Travel Agents

28. The estimates both for the Government Coast Agency and for private booking and travel agencies are deflated by an index of wage rates for the activity. The source of information for the index is the annual Survey of Employees and Self-Employed Persons.

Storage and Warehousing

29. Here, too, an index of wage rates for the activity is used to deflate the current price estimates.

Communications

30. Estimated revenue at constant prices of the East African Posts and Telecommunications Corporation is calculated by running forward base year revenue from postal services and telecommunications on indices of the number of postal boxes and the number of telephone subscribers. Intermediate consumption and value added in the base year are then run forward in line with estimated revenue at constant prices. Base year estimates of the East African External Telecommunications Company are run forward on an index of telegrams sent.

Chapter 12

FINANCIAL INSTITUTIONS, INSURANCES, REAL ESTATE AND BUSINESS SERVICES

1. Some 5 per cent of the gross domestic product of the whole country comes from this sector. The activities of the sector are varied and, for the purpose of estimating their value of output, intermediate consumption and value added, they are subdivided as follows:

- The Central Bank and Commercial Banks.
- Other Financial Institutions.
- Insurance Companies.
- Insurance Agents and Brokers.
- Real Estate.

- Business Services.

ESTIMATES AT CURRENT PRICES

The Central Bank and Commercial Banks

2. The requisite information on the activities of the Central Bank is obtained from the Bank's accounts. For the commercial banks, information is collected through a special questionnaire circulated by the Central Bank. Many of the commercial banks are branches of foreign banks and, for a few of these brands, information is available only on an "East African basis". In such cases, the relevant items of revenue and expenditure are allocated to Kenya in the proportion that personal emoluments in Kenya bear to personal emoluments in East Africa.

3. The value of output, or service, produced by banks is calculated as stipulated in the SNA manual. It is the difference between interest and dividends received over interest and dividends paid, plus other income from dealings in foreign exchange, from commissions and service charges, and from rents received through the ownership of non-residential buildings. Intermediate consumption, that is, expenditure on goods and services other than interest payments, is subtracted from the

value of output, as calculated above, to obtain value added. The operating surplus is derived by deducting personal emoluments from value added.

4. The value of the service performed by the banking subsector ought, in theory, to be allocated to the intermediate consumption of enterprises. However, because of the difficulty in making such allocations rationally, it is allocated in its entirety to a dummy financial corporation. The contribution to total value added by this dummy financial corporation is negative by this amount, since no other entries are applicable. No part of the value of output of the banking subsector is considered to be purchased by households.

Other Financial Institutions

5. These consist of:

- Savings banks, building societies and loan associations.
- Finance, hire purchase and mortgage companies.
- Financial services.

6. The first two types of institutions noted above include both public and private enterprises. Such institutions, like the commercial banks, earn only a small proportion of their income from service charges. Their activities are largely financed by the excess of property income received over that paid. The value of the services they provide consists of their revenue from commissions and service charges, plus the difference between their property income received and that - both actual and imputed - paid. Imputed interest paid is only calculated for those public and private finance companies that do not accept deposits. Such enterprises obtain their funds from other sources, such as the Central Government or the World Bank, and then make loans to commercial and industrial undertakings. For a public enterprise, an imputed payment of interest is made equal to 8 per cent of funds borrowed; for a private firm, an imputed charge is made equal to 8 per cent of its ordinary share capital. Unless this is done, the value of the service performed by them would be inflated compared with that of an undertaking that has to pay interest on its borrowed funds. Strictly, an imputed interest charge should also be made on the share capital of banks. But this is not done since the amount of such a charge would be only small in relation to the interest paid on deposits.

7. Financial services consist of the services rendered by stockbrokers and investment trusts. The aggregate value of such services is small. The annual Survey of Employees and Self-Employed Persons⁽¹⁾ provides estimates of labour costs; the gross operating surplus is arbitrarily assessed at 25 per cent of the labour costs.

(1) See Appendix 7 for further details on this survey and also for details on the 1975 Survey of Services which is mentioned later in the chapter.

Insurance Companies

8. The standard procedure for evaluating the service performed by a life insurance company is to subtract from the premiums received, both the claims paid and the increase in actuarial reserves exclusive of interest received. This method is not followed in Kenya because most of the Insurance firms are branches of foreign companies and they do not know the value of actuarial reserves which have been set aside against the premiums written in Kenya. Moreover, the information is not readily available from the parent companies situated outside the country.

9. Alternatively, the value of their output, and that of firms engaged in other types of insurance business, is estimated using income tax statistics in conjunction with information provided by the annual Survey of Insurance Companies. From such data, their output is calculated as the sum of their profits, net interest receipts, personal emoluments, indirect taxes, depreciation charges and intermediate consumption.

Insurance Agents and Broker

10. The revenue receipts of insurance agents and brokers consist of the commissions paid to them by the insurance companies. The value of these commissions is obtained through the annual Survey of Insurance Companies just referred to. The annual Survey of Employees and Self-Employed Persons supplies information on the wage bill of insurance agents and brokers. Many insurance agents do a varied business in addition to being insurance agents. They are asked to state their wage bill for their activities as insurance agents separately. Intermediate consumption is put at 25 per cent of their wage bill. Value added is thus obtained as the difference between commissions received and the estimate of intermediate consumption.

Real Estate

11. The estimates for real estate are based on inadequate sources of data, since real estate activities are undertaken not only by real estate and property companies but also by single person enterprises. The value of output of real estate includes the commissions earned by real estate agents from the letting and selling of houses and non-residential property, and the rents of property companies from non-residential buildings. The rents received by property companies from the dwelling houses they own are identified and presumed to be included in the value of output of ownership of dwellings.

12. Income tax statistics, which are the main source of information, provide figures on the net trade receipts and the net rental receipts of those companies and individuals engaged in this activity. These figures are net, that is, after

the deduction of intermediate consumption, interest and labour costs from gross receipts. It is assumed that these net trade receipts represent the net profits of real estate "firms" from commissions; it is also assumed that 50 per cent of the net rentals of companies represents the net profits of property companies from non-residential property.

13. Labour costs are supplied by the annual Survey of Employees and Self-Employed Persons. Since part of such costs are incurred by property companies in connection with the dwelling houses they own, it is assumed that the labour costs relevant to their real estate activity are in the ratio of net trade receipts plus 50 per cent of net rentals of companies to net trade receipts plus total net rentals of companies. Interest paid - obtained from income tax statistics - is proportioned in the same manner as labour costs.

14. Thus, value added consists of the total of net trade receipts of companies and individuals, plus 50 per cent of net rentals of companies, plus labour costs and interest paid derived as stated. Since consumption of fixed capital is believed to be negligible, no amount is included for it. Intermediate consumption is assumed to be 25 per cent of value added.

Business Services

15. These include:

- Legal services.
- Accounting services.
- Data processing services.
- Engineering and architecture services.
- Advertizing.
- Business services, except leasing of machinery and equipment, nes.

The 1975 Survey of Services collected information on the value of output, intermediate consumption and labour costs for each activity listed above. The annual Survey of Employees and Self-Employed Persons provides information on employment and the wage bill in the current year. The 1975 aggregates for each activity are run forward in line with the ratio of the current year labour bill to that of 1975.

ESTIMATES AT CONSTANT PRICES

Banking, Insurance and Real Estate

16. Many countries use indicators, such as the number of cheques cleared and number of insurance policies written, to run forward base year estimates for banks and insurance companies. But no such information is available in Kenya. Other

methods have therefore to be used. The estimated gross domestic product at current prices for all sectors in the monetary economy - except for financial institutions, insurances, real estate and business services - is divided by the corresponding estimate at constant prices. An implicit price index is thus derived. This index is then used to deflate the estimates of the value of output, intermediate consumption and value added of these combined subsectors.

Business Services

17. From the annual Survey of Employees and Self-Employed Persons, an index of wage rates is derived for each component service. The current price estimates of the value of output, intermediate consumption and value added for each service are then deflated by the relevant wage index.

Chapter 13

OWNERSHIP OF DWELLINGS

1. Ownership of dwellings contributes some 6 per cent to the country's gross domestic product. As a first step to estimating the value of output, intermediate consumption and value added for the sector, housing is divided into two categories, namely, "modern" and "traditional". The latter category refers to the traditional dwellings located in rural areas - where "rural areas" are defined as those outside the boundaries of municipal and local authority areas. The imputed rents for such dwellings are included in the output of the traditional economy; the actual and imputed rents for modern housing are included in the output of the monetary economy.

ESTIMATES AT CURRENT PRICES

Monetary Economy

2. Modern housing consists of those dwellings located in municipalities, townships, other urban areas and large farms. Information on rents in municipalities, townships and other urban areas is obtained from the annual Rent Survey. For this survey, the country's seven municipalities, the townships and the other urban areas are divided into homogeneous zones according to the quality of the dwellings in these zones. A two stage sample - of plots within zones and of dwellings within selected plots - is then taken. Excluded from the sample are dwellings belonging either to the Central Government, the municipal authorities or the East African Community. The survey provides for each zone an estimate of the numbers of houses, flats, maisonettes and other types of dwellings, classified by number of rooms and by various other attributes. The main objective of the survey is to obtain an estimate of the average rent paid for each type of dwelling covered in the sample. Rental values on owner-occupied dwellings are imputed as being equal to the average rent paid on equivalent rented properties in the same locality. Aggregation of the estimates for each zone in each municipality, township and other urban area yields the required figure of total rental value, both imputed and actual.

3. Dwellings on large farms are subdivided into those which are owner-occupied and for managerial staff, those which are for intermediate staff and those which are for farm labour. The last mentioned are further subclassified into those on tea estates, those on coffee and sisal estates and those on other large farms, to take cognizance of differences in the quality of such dwellings. An ad hoc study provided an estimate of the aggregate rents paid on each type of housing. These base year rent figures are run forward on an index of the number of farms and on an index of rents in townships and other urban areas derived from the annual Rent Survey.

4. The number of dwellings owned by the Central Government, by the municipalities, and by the East African Community is supplied by these bodies. Such dwellings are either provided free to the staff or made available at nominal rentals. Imputed rentals, equivalent to the market rental value for different categories of such dwellings, are applied to estimate their total rental value. Rentals of houses belonging to local authorities in townships or to parastatal bodies are included with those of the private sector because they cannot be separately identified.

5. The annual Rent Survey is being restructured with the objective of taking a much larger sample every 5 years to provide reliable base year figures. In the intervening years, a subsample of the original sample will be taken; the responding dwellings in the subsample remaining the same. Quite a small subsample - on account of the negative covariance term when the reporting units in the subsample are kept unchanged - will provide accurate answers on the average prevailing level of rents. An index of rents for properties in different areas will then be constructed. Base year figures of rents will be raised by the relevant index of rents. An addition will also be made for the increase in the stock of dwellings. The

percentage increase in the stock of dwellings by area can be calculated from the base year figures and the figures on reported annual completions noted in Chapter 8.

6. Intermediate consumption in the form of maintenance expenditure is put at 10 per cent of aggregate rentals for privately owned dwellings and 5 per cent for those owned by the Central Government, the municipalities and the East African Community.

Traditional Economy

7. In Chapter 8, which deals with the building and construction sector, it was stated that, as a prelude to the calculation of the value of hut building, estimates were made of the number of huts in advanced, intermediate and remote areas into which the rural areas of the country were classified. It was further noted that the stock of huts in each area was subdivided into the numbers of huts of types A and B. It was also mentioned that special ad hoc studies had been under-

taken to determine the cost of type A and B huts in the various areas. These costs are run forward annually in line with an index of wage rates for casual agricultural labour obtained from the annual Survey of Employees and Self-Employed Persons(1). Such costs, including the cost of ancillary buildings like kitchens and latrines, are used to value the stock of huts in each area.

8. Few, if any, huts in rural areas are in fact rented. An imputed rental for owner-occupied huts has therefore to be derived indirectly. The imputed rental, it is assumed, must be sufficient to account for maintenance costs, consumption of fixed capital, and still yield a "normal" return on capital, that is, on the current value of the stock of huts. Maintenance costs, as stated in Chapter 8, are assumed to be equal to 25 per cent of the value of new huts constructed. Consumption of fixed capital is estimated as being equal to the aggregate value of all traditional dwellings that are replaced during the year. The percentages of the various stocks of huts that need to be replaced annually in different areas are to be found in Chapter 8. The interest on capital is estimated at an assumed rate of return - based on the rate of interest offered on post office deposit accounts of 4 per cent.

ESTIMATES AT CONSTANT PRICES

Monetary Economy

9. The current price estimates of rents, both actual and imputed, are deflated by an index of rents derived from information from the annual Rent Survey. It is intended that, in future, the base year figures will be increased by the same percentage as the increase in the housing stock. Intermediate consumption is put at 10 per cent of the aggregate level of rents at constant prices for dwellings owned by the private sector and 5 per cent for those owned by the Central Government, the municipalities and the East African Community.

Traditional Economy

10. As explained in paragraph 8, current price estimates of rents are derived indirectly as a sum of the assumed rate of return on the current value of the stock of A and B type huts, the current value of the traditional dwellings that need to be replaced annually, and the current cost of maintenance. To obtain constant price estimates, the calculations for current price estimates are repeated while retaining the cost of A and B type huts in the various areas constant. Maintenance costs are put at 25 per cent of the value of new huts at constant prices and replacement costs are based on the same percentages quoted in Chapter 8. Again the calculation is undertaken to determine the level of rents necessary to meet maintenance and replacement costs at constant prices and still yield a 4 per cent return on the value of the stock of huts at constant prices.

(1) For further details on this survey see Appendix 7.

Chapter 14

COMMUNITY, SOCIAL AND PERSONAL SERVICES

1. Just under 3.5 per cent of Kenya's gross domestic product comes from this sector. Included in this sector are those services performed both by producers of private non-profit services to households and by other private sector enterprises in urban and rural areas. Similar activities undertaken by producers of government services are dealt with in the following chapter.

ESTIMATES AT CURRENT PRICES

Producers of Private Non-Profit Services to Households

2. Producers of services to households, if their activities are controlled or financed by government, are included with those of producers of government services. Producers of services that benefit enterprises, unless financed by government, are assigned to the same activity as that of the enterprises they serve. Only producers of those services that directly benefit households and which are not financed either by government or by enterprises are classified as producers of private non-profit services to households.

3. The relevant services are rendered by:

- Welfare institutions.
- Professional and labour organizations.
- Producers of community services.
- Private libraries and cultural services.
- Religious organizations.

Welfare institutions include such bodies as Kenya Freedom from Hunger Campaign, Kenya Society for the Blind and Save the Children Fund. Professional and labour organizations consist solely of trade unions. The community services are very varied and include institutions such as Housewives' Consumer Association, Kenya

Arts Society, Masonic Trust of Kenya, and the British Legion. Most of the libraries and producers of cultural services are classified as producers of government services.

4. These various activities were amongst those covered by the 1975 Survey of Services⁽¹⁾. The survey obtained information on salaries and wages, employment, intermediate consumption and capital expenditure from the respondents. Being non-profit organizations, they have no operating surplus and consumption of fixed capital is assumed to be nil. Their value of output, therefore, is equal to the sum of salaries and wages paid and expenditure on intermediate consumption. Accordingly, estimates for 1975 of the value of output, intermediate consumption and value added were made for each of the non-profit services covered. Estimates for the current year are derived by multiplying, on a service by service basis, the estimates for 1975 by the ratio of the current wage bill to that in 1975. Information on the salary and wage bill for the current year is provided by the annual Survey of Employees and Self-Employed Persons.

Services Performed by Private Sector: Urban

5. The main services included are:

- Social and related community services:
 - education services,
 - medical, dental and other health services,
 - veterinary services.
- Recreational and cultural services:
 - motion pictures and other entertainment services,
 - pleasure boat hire,
 - other amusement and recreation facilities.
- Personal and household services:
 - repair of motor vehicles and motor cycles,
 - repair of footwear,
 - laundry services,
 - domestic services.
- Miscellaneous personal services:
 - barber and beauty shops,
 - photographic studios,
 - hunting and tourist guide services,
 - personal services nes.

(1) See Appendix 7 for further details on this survey and also for details on the annual Survey of Employed and Self-Employed Persons, the 1972 Census of Industry, the annual Survey of Manufacturing Industry and the 1972 Survey of Small Scale Rural Enterprises which are mentioned later in the chapter.

6. The 1975 Survey of Services covered all these activities with the exception of repair of motor vehicles and bicycles, and domestic services. It provided for each service estimates of the value of output, intermediate consumption, labour costs and employment, and capital/expenditure. Estimates of the value of output, intermediate consumption and value added for the current year are obtained by multiplying their values in 1975 by the ratio of the wage bill in the current year to that in 1975. The annual Survey of Employees and Self-Employed Persons supplies the information on the current wage bill.

7. Repair of motor vehicles and bicycles is an activity initially covered in the 1972 Census of Industry. Annual figures on the value of output, intermediate consumption and labour costs are Obtained from the annual Survey of Manufacturing Industry.

8. Domestic services are calculated from the estimated number of different categories of servants and the average wage for each category obtained from the annual Survey of Domestic Servants. Adjustments are made for the under coverage of numbers employed.

9. Included in personal services are certain services such as shoeshining and other similar services provided by the informal sector. The information is collected in the annual Informal Sector Survey.

Services Performed by Private Sector: Rural

10. The main services are:

- Education.
- Medical and health services.
- Barbers and beauty shops.
- Photographers.

11. Data on the value of output and intermediate consumption were obtained in the 1972 Survey of Small Scale Rural Enterprises. In the absence of annual data, it is assumed that the rate of growth of these activities is two thirds of that of the corresponding activity in urban areas. Value added for such activities in rural areas is insignificant compared with that for urban areas.

ESTIMATES AT CONSTANT PRICES

Producers of Private Non-Profit Services to Households

12. Base year estimates of the value of output, intermediate consumption and value added are run forward on the ratio of current year employment to that in the base year Where no such information is available, an index of wage rates - derived as

explained in Chapter 15, for producers of government services - is used to deflate the current price estimates.

Services Performed by Private Sector: Urban

13. The current price estimates are deflated by an index of wage rates for each of the activities derived from information obtained through the annual Survey of Employees and Self-Employed Persons.

Services Performed by Private Sector: Rural

14. It is assumed that the rates of growth at constant prices of the various services are two thirds those of the comparable urban activities at constant prices.

Chapter 15

THE GOVERNMENT SECTOR

1. Producers of government services contribute about 18 per cent to Kenya's gross domestic product. Five different tiers constitute the government sector. These are:

- Central Government.
- East African Community General Fund Services.
- Local Authorities.
- Administrative and Regulatory Statutory Boards.
- National Social Security Fund.

2. The recommendations of the SNA manual are followed in the treatment of the government sector in the national accounts. The analysis of its operations is undertaken in two contexts. In the first context, where the interest lies in production, consumption and capital expenditure, the government sector is treated as a collection of "establishments", usually ministries, departments and sub-departments. The analysis is undertaken by kind of economic activity and a production account is prepared for each such economic activity. The coverage is denoted by the term "producers of government services". On the other hand, where the interest lies in income, outlay and capital finance, the appropriate units are the decision making institutional bodies such as the Central Government and local authorities. Here the coverage is denoted by the term "general government". The precise distinction between "producers of government services" and "general government" is made clear below.

ESTIMATES AT CURRENT PRICES

Producers of Government Services

3. As noted in Chapter 2, all enterprise activities of the government sector - that is those activities whose output is dependent on general demand and is sold at a price intended to cover costs of production and those activities that use

technological processes similar to those used by private enterprises - are not included with the activities of producers of government services. Instead, they are included with the enterprise activities of the economy and have been dealt with in the relevant activity chapters. In Kenya, such enterprise activities of the government sector consist of:

- Central Government:
 - Ministry of Works:
 - building and construction,
 - electrical engineering,
 - mechanical engineering,
 - Government Coast Agency;
 - Forest Department:
 - forestry work,
 - building and construction,
 - ownership of dwellings,
 - manufacturing;
 - Ministry of Agriculture:
 - livestock trading;
 - Ministry of Water Development;
 - Ministry of Power and Communications:
 - aerodrome activities;
 - Government Printer.
- Local Authorities:
 - water supply undertakings,
 - trading activities.

The exclusion of these activities from producers of government services enables the other activities of the government sector to be more homogeneously classified in respect of character, cost structure and technology. To the extent that the output of enterprise activities of the government sector are used as inputs by producers of government services, they are included in the latter's intermediate consumption.

4. The information for preparing the various production accounts for producers of government services is obtained from the published accounts of each tier of the government sector. Production accounts are prepared for each department, or in some cases for each sub-department, in the Central Government, local authorities and the East African Community General Fund Services. These production accounts are summed in various ways to obtain an aggregate production account for each activity in each tier of government, for each tier of government, and for each activity for all tiers of government. The activities are classified into:

- Public Administration.
- Defence.
- Education.
- Health.
- Agricultural Services.
- Other Services.

Preparing production accounts in such detail also facilitates the analysis of public consumption by purpose in the income-outlay and capital finance accounts of general government.

5. Various imputations are made in calculating the output of producers of government services pertaining to the Central Government tier but not for producers of government services in the other tiers owing to lack of information. The imputations are made in respect of subsidized housing, free medical services, and free uniforms and rations. The value of such free or subsidized benefits is regarded as income in kind and added to wages and salaries. Contra entries are recorded in the production accounts as sales to households or enterprises. Imputations are also made in respect of pensions technical assistance staff and consumption of fixed capital. The contra entries for these, since they represent transfers, are not entered in the production account; those for pensions and technical assistance personnel are entered in the income-outlay account and that for consumption of fixed capital in the capital finance account.

6. The Central Government has no pension fund. Hence, it is estimated that the employer's imputed contribution amounts to an equivalent of 25 per cent of the basic salary of employees to account for their pensions at retirement. The estimated value of the services provided by technical assistance staff is based on information - supplied by foreign missions and international institutions - on the number of different categories of such personnel and their salaries. The imputed amount calculated for the consumption of fixed capital is entirely in respect of vehicles. The figure is put at the average value of the replacement of vehicles during the previous three years.

7. In the production account for all tiers of the government sector, sales to enterprises and households - including imputed sales - are deducted from the value of output to obtain consumption for own use. It should, however, be noted that it is not possible, because of lack of information, to exclude all enterprise activities from producers of government services. Instances of such activities are the sale of postcards by museums, certain services charged for by the Veterinary Department, and drugs sold by the Ministry of Health.

8. The analysis of the accounts of the Central Government, local authorities and the East African Community General Fund Services is an involved exercise entailing scrutiny of each and every expenditure entry. This is made necessary since:

- not all expenditures in the recurrent budgets are current expenditures on goods and services. Nor are all expenditures in the development budgets capital formation. A reclassification has therefore to be undertaken.
- the title identification of certain items of expenditure does not indicate whether the payment is for goods, for factor services, or both. For all such large items, information about their precise content has to be obtained from the basic records.
- the overhead and headquarter expenditures of ministries and departments which also undertake enterprise activities have to be prorated between such activities and their production of government services. The general procedure is to prorate such expenditures in proportion to total expenditure on the various activities.

9. The analysis in the case of the East African Community General Fund Services is complicated further by the fact that the share of the output of the services, both produced and consumed in Kenya, has to be ascertained. How this is done is set out in Appendix 6. There it is noted that the value of the production in Kenya and the value of the consumption by Kenya of the services provided by the East African Community General Fund Services differ and that, where the value of the former exceeds that of the latter, there is a net sale of services by Kenya to the other partner states. The sale is deducted from the value of production in Kenya to obtain consumption for own use.

General Government

10. As noted at the beginning of this chapter, in instances where the interest lies in analyzing the government sector as a group of decision making institutional bodies, the focus of attention shifts to "general government". General government includes not only the producers of government services but also the enterprise activities of the Central Government and local authorities. The East African Community General Fund Services undertakes no such activities and the administrative and regulatory statutory boards⁽¹⁾ are by definition self contained general government entities.

11. The analysis entails compiling an account of the expenditure of general government and its financing. The income-outlay and capital finance accounts of general government detail the information as required to undertake analysis for the objective noted above. The value of output and intermediate consumption of government sector enterprises does not feature in such accounts; their operating surplus and capital expenditure do.

(1) Table 3 of Appendix 5 lists the boards referred to here.

12. For the moment, income-outlay and capital finance accounts are prepared only for the Central Government. Information is not yet available to do the same for the other tiers of the government sector.

13. Stamp duties and estate duties are included in the capital finance account, not in the income-outlay account. This is because such duties are not regarded as being paid out of the current income of the payer. Also the classification of current and capital transfers depends on whether they are published under the Recurrent Revenue and Expenditure Accounts or under the Development Revenue and Expenditure Accounts. This is in broad conformity with the SNA manual; the grants received or paid in the development budget are for capital projects.

14. Some adjustment is made to indirect taxes as they are stated in the published accounts of the Central Government before they are entered in the income-outlay account. An indirect tax, to be Regarded as such, must be treated by a producer as an expense of engaging in production. Households, since they do not engage in production, cannot pay indirect taxes directly to government. Accordingly, a part of such taxes - the part paid by individuals - is treated as a fee. Airport taxes, driving and vehicle licences, and game licences are pertinent examples of such taxes being paid partly by individuals. On the other hand, the payments for services by producers to government are regarded as indirect taxes if these services are compulsory and unavoidable in the only circumstances in which they are useful. Both these treatments are in conformity with the SNA manual.

15. There is an automatic check on the overall accuracy of the income-outlay and capital finance accounts. The capital finance account must balance exactly when account has been taken of changes in the Central Government's balances with the Central Bank.

16. Expenditures, both current and capital, in the income-outlay and capital finance accounts are next classified by purpose. This is complemented by a simultaneous classification of such expenditure by economic transaction, that is, it differentiates between expenditure on personal emoluments, goods and services, transfers, property income, fixed capital formation, loans, etc. The purpose classification of expenditures is similar to that to be found in the SNA manual and is as follows:

- General Services:
 - Central.
 - Provincial.
 - Foreign affairs.
 - Law and order.
 - Defence.
 - Revenue collection and financial control.

- Community Services:
 - Roads.
 - Waterworks.
 - Other.
- Social Services:
 - Education.
 - Health.
 - Housing.
 - Labour.
 - Other, including community development.
- Economic Services:
 - Agriculture.
 - Veterinary.
 - Forestry.
 - Electricity and power.
 - Game and fisheries.
 - National parks and tourism.
 - Lands, mines, surveys and geology.
 - Transport, excluding roads.
 - Banks and other financial institutions.

Because of the details in which the numerous production accounts are prepared there is little difficulty in analyzing general government consumption expenditure by purpose. However, not all the items of expenditure, such as interest payment on loans, in the income-outlay and capital finance accounts can be so classified. Also a close scrutiny of the accounts is necessary to allocate capital expenditure by purpose.

ESTIMATES AT CONSTANT PRICES

Producers of Government Services

17. The contribution of producers of government services to value added consists of salaries and wages, an imputed contribution to an imputed pensions fund by employers, an imputed value for the consumption of fixed capital, and income in kind. The latter consists of the imputed subsidy on houses, free issue of uniforms and rations, and free medical treatment. The estimates of value added are reduced to constant prices as follows:

- Base year salaries and wages, including imputed employer contribution to pensions, are run forward on an index of employment. Employment is divided into various grades and a ratio of current employment to that in the base year is calculated for each grade. These employment ratios are then multiplied by weights computed for the base year; the weights are the proportions of salaries and wages of persons in each grade to total salaries and wages.

- The imputed value for the consumption of fixed capital is deflated by the Import Price Index for Transport Equipment(2).
- The value of uniforms is deflated by the price index for clothing in the Consumer Price Index(3).
- Imputed rents are deflated by an index of rents derived from information provided by the annual Rent Survey described in Chapter 13.
- The value of medical benefits is deflated by the price index for health and medical care in the Consumer Price Index.

18. To derive government consumption at constant prices, the intermediate consumption of producers of government services must also be deflated. This intermediate consumption is divided into current expenditure on rents, maintenance and repairs, travelling, equipment and stores, and the rest. The undermentioned deflators are used:

- Rents: the index of rents mentioned in paragraph 17.
- Maintenance and repairs: the Import Price Index for Machinery and Equipment.
- Travelling: a price index for transport.
- Equipment and stores: a price index which is an average of selected components - basic materials, chemicals, metals, semi-manufactured goods and consumer goods - of the Import Price Index.
- The rest: the same index as for equipment and stores above.

(2) See footnote 6 of Chapter 3.

(3) See footnote 2 of Chapter 4.

Chapter 16

GROSS CAPITAL FORMATION

1. Gross capital formation is the sum of gross fixed capital formation and change in stocks. In accordance with the SNA manual, estimates are prepared on gross fixed capital formation classified according to the undermentioned types of assets:

- Building and Construction:
 - Residential building.
 - Non-residential building.
 - Other construction except land improvement.
- Land Improvement and Plantation Development:
 - Land improvement.
 - Plantation development.
- Machinery and Equipment:
 - Agricultural machinery and equipment.
 - Other.
- Transport Equipment.
- Breeding Stock, Dairy Cattle and Wool Sheep.

These various estimates of gross fixed capital formation are subclassified further by activity of use, by whether in the public or private sector and, In the case of residential building, by whether in the monetary or traditional economy.

ESTIMATES AT CURRENT PRICES

Building and Construction: Monetary Economy

2. The estimates of private expenditure on residential and non-residential building are derived from the value of reported completions of private buildings and of extensions to them. This Information is supplied by all the municipalities. The value of reported completions is adjusted for time lags to yield estimates of the value of work put in place for the current year. The adjustment reflects the work

put in place in the previous year. Seventy five per cent of the value of completions during the first quarter of the year and 25 per cent of those in the second quarter are regarded as having been completed in the previous year. Two per cent is added to the adjusted estimates to cover unreported building in the municipalities; An addition is also made to cover building in the monetary economy outside the municipalities. A special ad hoc study revealed that private building - other than building on large farms - for any particular year in the monetary economy outside the municipalities was 11.5 per cent of that in the municipalities. This percentage is added to obtain the estimates of private expenditure on residential and non-residential building. Expenditures on residential and non-residential building by the Central Government, local authorities, the East African Community and parastatal bodies are obtained either from their accounts or through special returns. The building undertaken by the East African Community refers only to the buildings constructed in Kenya. Estimates of the value of residential and non-residential building on large farms are obtained from the annual Census of Large Farms⁽¹⁾.

3. Estimates are also made of expenditure on other construction by the Central Government, local authorities, the East African Community, parastatal bodies, and by large and small farms. The sources of information are the same as those mentioned in the previous paragraph. Expenditure on other construction by private enterprises is supplied by the quarterly Business Expectations Enquiry.

4. All capital formation on residential building - even where the expenditure is incurred by the public sector - is imputed to ownership of dwellings.

5. The functional classification of the accounts of the Central Government and those of the East African Community General Fund Services enables their expenditure on non-residential building and other construction to be allocated by the type of activity that uses them, that is, public administration, health, education, agricultural services and other services. The expenditure of local authorities on non-residential building is divided in equal proportions amongst public administration, health and education services, and that on other construction between water and other services according to the objectives of such capital formation.

6. The expenditure on non-residential building and other construction by parastatal bodies and the East African Community corporations are assigned to sector of use according to their activity classification. With the East African Community corporations, expenditure on non-residential building and other construction are classified by their primary activity. However, it is hoped that, in future, the

(1) See Appendix 7 for further details on this census and also for details on the quarterly Business Expectations Enquiry, the annual Survey of Employees and Self-Employed Persons, the annual Survey of Manufacturing Industry, the 1972 Census of Industry, the annual Integrated Rural Survey, and the 1971 Survey of Distribution which are mentioned later in the chapter.

allocation of such fixed capital formation will be undertaken more finely - according to the various kinds of economic activity undertaken by each corporation.

7. Information from the quarterly Business Expectations Enquiry enables the expenditure on non-residential building and other construction by private enterprises to be allocated to sector of use. Such expenditure by large and small farms is assigned to agriculture.

Building and Construction: Traditional Economy

8. The value of such capital formation consists of the output of residential and non-residential building and other construction by self-help schemes, and "traditional" residential building in rural areas. Information on self-help schemes is provided by the Department of Community Development and Social Services. The method of estimating the value of huts and associated structures built has been described in Chapter 8.

9. All such capital formation on residential building is allotted to ownership of dwellings. Non-residential building and other construction undertaken by self-help schemes is assigned to other services.

Land Improvement and Plantation Development

10. Fixed capital expenditure on land improvement represents the cost of such improvements undertaken on large and small farms. The annual Census of Large Farms provides the needed information for large farms. The Ministry of Agriculture supplies information on the lengths of narrow base terraces and bench terraces constructed on small farms and on the amount of time it takes one man to dig a specified length of terrace. The hours devoted to this task are derived from this information. These, when multiplied by the hourly wage rate for casual agricultural labour - obtained from the annual Survey of Employees and Self-Employed Persons, yield the estimate of the value of capital formation. Such fixed capital expenditure is allocated to agriculture.

11. As explained in Chapter 3, coffee and tea are the only permanent crops covered under plantation development by the agriculture sector. Coffee and tea trees take several years to come into bearing. All expenditures incurred until such time - on planting, fertilizing, hoeing and weeding, etc. - are classified as fixed capital formation. The statutory boards responsible for tea and coffee growing provide information on the number of additional acres planted each year and on the costs incurred till the crop matures and is ready to bear harvest. Such expenditure is allocated to fixed capital formation in agriculture.

12. Gross fixed capital formation generated by forestry consists of the capital expenditures incurred on the clearing of land and the new planting of forests on it. The information is supplied by the Forest Department.

Machinery and Equipment

13. The expenditure on machinery and equipment at purchaser prices is derived using the commodity flow approach. The calculations consist of a series of steps. These are:

- The CIF (cost, insurance, freight) value of each import item that enters into this category of capital formation is abstracted from the annual Trade Report of the East African Customs and Excise Department and import duties added. Such imports, however, are not used exclusively for capital formation. Percentages are therefore applied to each item to obtain an estimate of the amount used for capital formation. The items and the proportions considered as capital are listed in Table 16.1. These percentages were ascertained through a special enquiry conducted when the 1971 Input-Output Table(2) was being compiled. Transport and distribution margins - based on the information collected in the 1966 Survey of Distribution - are then added to the estimated amount of each such import used for capital formation to obtain values at purchaser prices. For certain items, these values are then adjusted further for installation costs. The details on the transport and distribution mark-ups and the installation costs adjustments are also to be found in Table 16.1.
- The domestic production of commodities that enter into this category of capital formation is next estimated. Percentages - based on information collected in the 1966 Survey of Distribution and in special enquiries - are again applied to estimate the proportion of output of such items used for capital formation and the transport and distribution margins to be added to obtain the value at purchaser prices. No adjustment is made for installation costs.
- Expenditure on machinery and equipment by the public sector is then subtracted from the overall total of imported and domestic supplies, to yield the residual expenditure on machinery and equipment by the private sector.

14. The source of information for the domestic output of machinery and equipment is the annual Survey of Manufacturing Industry. This survey provides data on the value of output of each industry classified at the 4-digit level. Only a certain element of the output of certain industries is used for capital formation. Establishments with 50 or more employees are required to classify their output by

(2) For further details see the publication referred to in footnote 8 of Chapter 2.

Table 16.1 IMPORTS: PROPORTION ALLOCATED TO CAPITAL FORMATION, TRANSPORT AND DISTRIBUTION MARK-UP AND INSTALLATION COSTS ADJUSTMENT

| Import Item with SITC Code by ISIC Group of Industry of Origin(1) | Proportion Allocated to Capital Formation % | Transport 4 Distri- bution Mark-up % | Instal- lation Costs Adjustment % |
|---|---|--|---|
| ISIC GROUP 260: FURNITURE 4 FIXTURES | | | |
| 821.010 Chairs | 50 | 20 | - |
| 821.020 Medical furniture | 100 | 50 | - |
| 821.030 Mattresses, sofas, etc | 25 | 20 | - |
| 821.090 Furniture nes | 50 | 20 | - |
| 895.110 Filing cabinets, racks, etc, of metal | 100 | 50 | - |
| ISIC GROUP 332: GLASS AND GLASS PRODUCTS | | | |
| 665.100 Bottles and similar containers of glass | 5 | 15 | - |
| 665.200 Glass tableware | 5 | 15 | - |
| 665.810 Laboratory and hygienic glassware | 5 | 15 | - |
| ISIC GROUP 333: POTTERY, CHINA 4 EARTHENWARE | | | |
| 666.400 Porcelain or china household ware | 5 | 15 | - |
| 666.500 Household ware of other ceramic materials | 5 | 15 | - |
| ISIC GROUP 350: METAL PRODUCTS | | | |
| 692.100 Tanks, vats | 100 | - | 10 |
| 692.200 Casks, drums, boxes, cans | 75 | 25 | - |
| 692.300 Compressed gas cylinders | 100 | 25 | - |
| 693.201 Barbed wire | 100 | 25 | - |
| 693.209 Other fencing wire (special procedure) | 100 | 25 | - |
| 698.300 Chain and parts thereof | 100 | 25 | - |
| 695.240 Interchangeable tools for hand or machine tools | 100 | 25 | - |
| 697.211 Enamelled hollowware | 5 | 30 | - |
| 697.220 Domestic utensils of copper | 5 | 30 | - |
| 698.200 Safes, strongrooms, etc | 100 | 30 | - |
| 698.400 Anchors, grapnels | 100 | 25 | - |
| 711.100 Boilers | 100 | 20 | 10 |
| 711.200 Boiler house plant | 100 | 20 | - |
| 711.300 Steam engines, static | 100 | - | 10 |
| ISIC GROUP 360: NON-ELECTRIC MACHINERY | | | |
| 711.503 Outboard motors | 50 | 30 | - |
| 711.504 Internal combustion engines | 100 | 25 | 10 |
| 711.600 Gas turbines other than for aircraft | 100 | - | - |
| 711.700 Nuclear reactors | 100 | - | - |
| 711.810 Water turbines | 100 | - | - |
| 711.890 Other engines nes | 100 | 25 | 10 |
| 712.100 Agricultural machinery for preparing & cultivating soil | 100 | 30 | - |
| 712.200 Agricultural machinery for harvesting, threshing and sorting | 100 | 30 | - |
| 712.300 Milking machinery | 100 | 30 | - |
| 712.501 Tractors, agricultural | 100 | 30 | - |
| 712.502 Tractors, caterpillar type | 100 | 10 | - |
| 712.509 Tractors, nes | 100 | 30 | - |
| 712.900 Agricultural machinery, nes | 100 | 30 | - |
| 714.100 Typewriters | 75 | 60 | - |
| 714.210 Electronic computers not operated in conjunction with punched cards or tape | 100 | 60 | - |
| 714.220 Calculators | 100 | 60 | - |
| 714.301 Data processing equipment to calculate from punched cards or tape | 100 | - | 10 |
| 714.302 Electronic computer operated in conjunction with punched cards | 100 | - | 10 |
| 714.910 Office machinery nes | 100 | 60 | - |
| 715.100 Machine tools | 100 | 25 | - |
| 715.200 Other metal working machinery | 100 | 25 | - |
| 717.110 Spinning machines | 100 | - | 10 |
| 717.120 Weaving and knitting machines | 100 | - | 10 |
| 717.190 Textile machinery nes | 100 | - | 10 |
| 717.200 Leather machinery | 100 | - | 10 |
| 717.301 Sewing machines, industrial | 100 | 60 | - |
| 717.302 Sewing machines, household | 75 | 60 | - |

Table 16.1 IMPORTS: PROPORTION ALLOCATED TO CAPITAL FORMATION, TRANSPORT AND DISTRIBUTION MARK-UP AND INSTALLATION COSTS ADJUSTMENT (Contd.)

| Import Item with SITC Code by ISIC Group of Industry of Origin(1) | Proportion Allocated to Capital Formation | Transport & Distri- bution Mark-up % | Instal- lation Costs Adjustment % |
|--|--|--|---|
| 718.100 Paper machinery | 100 | - | 10 |
| 718.200 Printing machinery | 100 | 15 | 10 |
| 718.310 Grain milling machinery | 100 | 15 | 10 |
| 718.391 Sugar machinery | 100 | - | 15 |
| 718.399 Other industrial food processing machinery | 100 | 30 | 10 |
| 718.410 Road rollers | 100 | - | - |
| 718.420 Construction and mining machinery nes | 100 | 30 | 5 |
| 718.510 Mineral crushing machinery | 100 | 5 | 10 |
| 718.520 Glass-working machinery | 100 | - | 10 |
| 719.110 Gas Generators | 100 | 20 | 10 |
| 719.120 Air-conditioning machines | 75 | 30 | - |
| 719.130 Furnace burners | 100 | - | - |
| 719.146 Industrial and laboratory furnaces, non-electrical | 100 | - | 10 |
| 719.150 Non-domestic refrigerators | 100 | 30 | - |
| 719.190 Other heating and cooling machinery | 100 | 30 | 10 |
| 719.210 Pumps for liquids V | 100 | 30 | 10 |
| 719.220 Pumps for gases | 100 | 30 | 10 |
| 719.230 Centrifuges | 100 | 30 | 10 |
| 719.310 Lifting and loading machinery | 100 | 10 | - |
| 719.320 Fork lift trucks | 100 | 10 | - |
| 719.410 Domestic food processing appliances | 5 | 30 | - |
| 719.420 Domestic refrigerators | 25 | 30 | - |
| 719.430 Domestic water heaters | 25 | 30 | 5 |
| 719.500 Power tools nes | 100 | 25 | - |
| 719.610 Dulling machines nes | 100 | - | - |
| 719.620 Industrial cleaning and packaging machinery | 100 | 10 | 10 |
| 719.630 Weighing machinery and weights | 100 | 30 | - |
| 719.640 Spraying machinery | 100 | 30 | - |
| 719.650 Automatic vending machines | 100 | 30 | - |
| 719.801 Tobacco making machines | 100 | - | 10 |
| 719.802 Vegetable oil extraction machinery | 100 | - | 10 |
| 719.803 Soap making machines | 100 | - | 10 |
| 719.804 Tea machinery | 100 | - | 10 |
| 719.809 Other machinery | 100 | 10 | 10 |
| 719.910 Building boxes for metal foundaries | 100 | 25 | 10 |
| ISIC GROUP 370: ELECTRIC MACHINERY | | | |
| 722.101 Electric motors | 100 | 30 | 5 |
| 722.102 Generators, convertors, transformers | 100 | 10 | 10 |
| 722.200 Switchgear | 100 | - | 10 |
| 724.100 Television broadcast receivers | 5 | 30 | - |
| 724.200 Radio broadcast receivers | 5 | 30 | - |
| 724.910 Electrical line telephone and telegraph equipment | 100 | - | 10 |
| 724.920 Microphones, loudspeakers | 75 | - | - |
| 724.990 Other telecommunication equipment | 100 | - | 10 |
| 725.010 Domestic refrigerators, electrical | 5 | 30 | - |
| 725.020 Domestic washing machines, whether electric or not | 5 | - | - |
| 725.031 Electric fans | 50 | 30 | - |
| 725.039 Electro-mechanical domestic appliances, other | 5 | 30 | - |
| 725.040 Electric shavers and hair clippers | 5 | 30 | - |
| 725.050 Electric space heating equipment | 50 | 30 | - |
| 726.100 Electro-medical apparatus | 100 | 50 | - |
| 726.200 X-ray apparatus | 100 | - | 10 |
| 729.500 Measuring and controlling equipment | 100 | 50 | - |
| 729.600 Electro-mechanical hand tools | 100 | 50 | - |
| 729.700 Electron and proton accelerators | 100 | - | - |
| 729.900 Electrical machinery appliances nes | 100 | 30 | - |
| ISIC GROUP 385: TRANSPORT EQUIPMENT | | | |
| 735.930 Floating structures | 100 | - | - |
| ISIC GROUP 389: TRANSPORT EQUIPMENT | | | |
| 733.100 Cycles, not motorized | 50 | 15 | - |
| 733.339 Other vehicles, not motorized | 100 | 15 | - |
| 735.300 Ships and boats | 75 | 10 | - |
| 735.910 Tugs | 100 | - | - |
| 735.920 Special purpose vessels, eg light vessels | 100 | - | - |

Table 16.1 IMPORTS: PROPORTION ALLOCATED TO CAPITAL FORMATION, TRANSPORT AND DISTRIBUTION MARK-UP AND INSTALLATION COSTS ADJUSTMENT (Contd.)

| Import Item with SITC Code by ISIC Group of Industry of Origin(1) | Proportion Allocated to Capital Formation % | Transport & Distri- bution Mark-up % | Instal- lation Costs Adjustment % |
|--|---|--|---|
| ISIC GROUP 390: MISCELLANEOUS MANUFACTURES | | | |
| 861.300 Binoculars, microscopes, etc | 75 | 60 | - |
| 861.500 Cinematographic, cameras | 50 | 35 | - |
| 861.600 Photographic and cinematographic apparatus nes | 25 | 35 | - |
| 861.800 Meters and counters, non-electric | 100 | 60 | - |
| 861.910 Surveying Instruments | 100 | 60 | - |
| 861.930 Drawing and measuring, calculating Instruments | 100 | 60 | - |
| 861.990 Controlling and scientific Instruments | 100 | 60 | - |
| 864.229 Clocks nes | 75 | 60 | - |
| 864.280 Instruments and clocks nes | 100 | 60 | - |
| 891.111 Gramophones and record players | 5 | 30 | - |
| 891.112 Tape recorders and dictating machines, etc | 25 | 30 | - |
| 891.120 Accessories and parts of sound recorders | 25 | 30 | - |
| 894.242 Coin operated machines, amusement | 100 | - | - |
| 894.410 Fishing and hunting equipment | 5 | 30 | - |

(1) The relationship between the International Standard Industrial Classification (ISIC) and the Standard International Trade Classification (SITC) is detailed in the Classification of Commodities by Industrial Origin (Series M, No. 43), United Nations, New York, 1966.

commodity annually. The capital component of their output is then assessed. Establishments with less than 50 employees were asked to supply information on the commodity breakdown of their output in the 1972 Census of Industry. It is assumed that the distribution of their/output between different commodities has remained proportionately the same as it was at the time of the census. On the basis of this assumption, an estimate is made of the value of output of the various relevant commodities and of the percentage used as capital formation. As already stated, a further adjustment is then made to account for transport costs and distribution margins.

15. The sources of information for tracing the expenditure on machinery and equipment by the Central Government, local authorities, the East African Community and parastatal bodies are exactly the same as those mentioned in paragraph 2 for their expenditures on residential and non-residential building.

16. The functional classification of the accounts of the Central Government and of the East African Community -General Fund Services enables allocation of this expenditure by type of activity, namely, public administration, health, education, agricultural services and other services. Expenditure by local authorities is apportioned equally amongst public administration, health and education. Expenditure in Kenya of the East African Community corporations is allocated to their primary activity and that by parastatal bodies to their main activity.

17. The expenditure on machinery and equipment at purchaser prices by private enterprises is derived, as stated above, by subtracting the expenditure by public sector from the total supply. Next, expenditure by agriculture - provided by the annual Census of Large Farms and the annual Integrated Rural Survey - is subtracted from the overall private sector total. The remainder is assigned to industry of use by means of the information obtained through the quarterly Business Expectations Enquiry. Percentages - as derived from this enquiry - of the total expenditure on machinery and equipment invested by each industry are applied to the total supply of machinery and equipment available to the private sector to obtain its allocation by activity of use.

Transport Equipment

18. The equipment consists of aircraft, railway rolling stock and locomotives, boats and ships, and motor vehicles. Information about capital expenditure on aircraft and on railway rolling stock and locomotives is obtained both from the annual reports of the pertinent East African Community corporations and from the national accounts questionnaire these corporations complete. One third of the capital expenditure on aircraft and spare engines is allotted to each partner state on the basis of ownership; that on railway rolling stock and locomotives is apportioned on the basis of ton miles operated in each partner state.

19. Capital expenditure on ships by the Eastern Africa National Shipping Line is also distributed on the basis of ownership. The Kenya Government together with a private enterprise resident in Kenya own one half of the capital. Accordingly, one half of such expenditure is allocated to Kenya. Information about the capital expenditure on ships by the only other private enterprise is obtained from the company. Such ships are built abroad. There is also some domestic production of small boats, particularly of fishing boats.

20. The assignment of capital expenditure on aircraft, rolling stock or ships to user activity poses no problems.

21. Capital expenditure on motor vehicles by private enterprises is estimated from vehicle licensing records. The number of new vehicles, classified by make, is used to deduce the vehicles representing capital formation. The records also give sales value. In theory, any expenditure on spare parts that extends the life of a vehicle by more than a year should be included in capital formation unless it is a vehicle used for private purpose. However, this is not done owing to lack of information on the proportion of expenditure on spare parts which could be considered as capital formation.

22. For the public sector, the sources of information on expenditure on vehicles by the Central Government, local authorities, the East African Community and parastatal bodies are their accounts. The allocation to the activity using this equipment is done in precisely the same way as described in paragraph 16 for public sector capital expenditure on machinery and equipment.

23. Private sector expenditure on transport equipment is classified by activity of use from the information obtained through the annual Census of Large Farms, the annual Integrated Rural Survey and the quarterly Business Expectations Enquiry. The method is similar to that outlined in paragraph 17 for private expenditure on machinery and equipment.

Breeding Stock, Dairy Cattle and Wool Sheep

24. Included in the output of livestock and livestock products is the value of the increase in herds. The method of making the estimate is described in Chapter 3. It is not possible to subdivide the value of the increase in herds between gross fixed capital formation and an increase in stocks in the way laid down by the SNA manual. In fact, only the value of the increase in the breeding stock, the dairy cattle and the sheep kept for wool covered in the annual Census of Large Farms is included in fixed capital formation. The value of the increase in all other herds is included under stocks.

Changes in Stock

25. Changes in stocks are recorded for:

- Agriculture.
- Forestry.
- Mining and Quarrying.
- Manufacturing.
- Building and Construction.
- Electricity.
- Wholesale and Retail Trade.

26. The annual Census of Large Farms and the annual Integrated Rural Survey provide the needed information on the size of cattle, pig, sheep, goat and poultry herds held on farms. Except for the value of the increase in breeding stock, dairy cattle and wool sheep included in fixed capital formation, the value of the increase in herds is recorded in stocks. The value of the increase in cattle herds owned by nomadic tribes is also included under stocks.

27. The method of calculating the value of the increase in stocks - recorded as the value of the increase in "work in progress" - on forest plantations maintained by the Forest Department is stated in Chapter 4.

28. Information about the value of stock holdings by enterprises in mining and quarrying, manufacturing, and building and construction is obtained either through the annual surveys pertaining to these activities⁽³⁾ or from the quarterly Business Expectation Enquiry. From this information the value of the increase in stocks - not the increase in the value of stocks - is calculated. The first step in the calculation is to deflate, by a price index, the value of stocks at the end of each year to obtain the value at constant prices. The difference between such figures for consecutive years is the value of the change in stocks at constant prices. This difference is then converted to the value of the change at current prices by multiplying it by the price index for the current year. This method is not entirely satisfactory. A more refined calculation would, amongst other things, take into account the period of turnover of stocks. Such complications are ignored .

29. The price index used for deflating the stocks held by enterprises engaged in mining and quarrying is derived from the series obtained by dividing the value of output at current prices by the value at constant prices. The assumption is that stocks consist of mining products.

(3) The annual Survey of Mining and Quarrying, the annual Survey of Manufacturing Industry, the annual Survey of Building Contractors. See Appendix 7 for details on these surveys.

30. The price index used for deflating the value of stocks held by enterprises engaged in manufacturing is the weighted average of several separate indices, namely, of agricultural produce, of manufactured goods and of certain categories of imports. The price indices for agricultural produce and manufactured goods are derived from the series obtained by dividing the value of output at current prices by that at constant prices. The separate indices are combined according to the weights derived from the 1971 Input-Output Table.

31. The price index used as a deflator for the value of stocks held by enterprises engaged in building and construction is a weighted average of the Residential Building Cost Index, the Non-Residential Building Cost Index and the Civil Engineering Cost Index⁽⁴⁾.

32. For electricity, the major enterprise engaged in its generation and distribution provides the necessary information on the value of stocks held. The same method as stated in paragraph 28 is used for calculating the value of the change in stocks. Stocks are assumed to consist of fuel oils. A price index of fuel oil is therefore used to deflate stock holdings at current prices.

33. The quarterly Business Expectation Enquiry provides the value of stocks held by enterprises engaged in joint wholesale and retail trade, wholesale trade, and retail trade. Again, the same method as the one described in paragraph 28 is used, that is, of deflating end of year holdings of stocks at current prices by a price index; then taking the difference between the figures for consecutive years to obtain value of the change at constant prices; and then revaluing this estimate at current prices. The price index used for deflating stock holdings at current prices is a weighted average of the price indices for agricultural produce, locally manufactured goods and imports. The weights are based on the proportions of such throughputs obtained from the 1971 Survey of Distribution.

34. The change in the value of stocks held by wholesalers and retailers of petroleum products is similarly made. The price index used for deflating the value of stocks at current prices is derived implicitly from the value of output of petroleum products at current and constant prices.

35. Marketing boards report their holdings of maize, coffee and other agricultural produce. Average prices for the year multiplied by the relevant changes in quantity yield the value of the increase in such stocks.

(4) See footnote 4 of Chapter 8.

ESTIMATES AT CONSTANT PRICES

Building and Construction

36. Estimates of fixed capital formation at current prices in residential building, non-residential building and other construction are deflated, respectively, by the Residential Building Cost Index, the Non-Residential Building Cost Index, and a weighted average of the Non-Residential Cost Index and the Civil Engineering Cost Index.

37. The value of output at constant prices of building and construction in the traditional economy is obtained is stated in Chapter 8.

Land Improvement and Plantation development

38. The expenditure on land improvement at current prices is deflated by an index based on the average wage bill for employees in the agriculture sector. The index is derived from data supplied by the annual Survey of Employees and Self-Employed Persons.

39. To obtain an estimate of fixed capital expenditure at constant prices on plantation development, the current prices estimates are repeated but with one difference. The costs per acre for the various "vintages" of tea and coffee, prior to bearing, are kept constant.

40. Capital expenditure on planting new forests at current prices is deflated by a price index of wage rates. The index refers to the wages of casual agricultural labour and is derived using information from the annual Survey of Employees and Self-Employed Persons.

Machinery and Equipment, and Transport Equipment

41. In each case, the current price estimates are deflated by the relevant Import Price Index(5).

Breeding Stock, Dairy Cattle and Wool Sheep

42. The constant price estimates are obtained by valuing the increase in these categories of animals at constant prices.

(5) See footnote 6 of Chapter 3.

Changes in Stocks

43. Changes in stocks held by enterprises engaged in mining and quarrying, building and construction, manufacturing and distribution are, as stated above, calculated in the first instance at constant prices.

44. In forestry, the value of the increase of "work in progress" on forest plantations maintained by the Forest Department is estimated at constant prices by keeping the value of output from a hectare of mature forest constant. Otherwise the method is the same as for the current price estimates.

45. The value of the increase in stocks of animal herds is obtained by valuing the increase at the base year prices of the various categories of animals.

Chapter 17

EXTERNAL ACCOUNTS

1. Kenya compiles its external accounts on the basis of the third edition of the IMF manual(1) but with some adaptations taken from the new fourth edition(2) while it was in draft. These adaptations concern mainly the recording of investment income and of the capital transactions of the Central Monetary Authorities - particularly those with the IMF. External transactions are classified into the following accounts and sub-accounts.

- CURRENT ACCOUNT:
 - Merchandise Transactions.
 - Non-Monetary Gold Movements.
 - Freight on International Shipments.
 - Insurance on International Shipments.
 - Other Transportation.
 - Foreign Travel.
 - International Investment Income.
 - Government Transactions.
 - Other Services and Labour Income.
 - Private Transfers.
 - Government Transfers.
- CAPITAL ACCOUNT: CAPITAL MOVEMENTS:
 - Private Long-Term Foreign Assets and Liabilities.
 - Government Long-Term Foreign Assets and Liabilities.
 - Short-Term Foreign Assets and Liabilities.
- CAPITAL ACCOUNT: CENTRAL MONETARY AUTHORITIES:
 - Reserve Position in Fund or Use of Fund Credit.
 - Special Drawing Rights.
 - Other Foreign Assets and Liabilities.

(1) Balance of Payments Manual (Third Edition), International Monetary Fund, Washington, D.C. , 1961.

(2) Balance of Payments Manual (Fourth Edition), International Monetary Fund, Washington, D.C., 1977 .

Definition of Non-Residents

2. Non-residents in Kenya include the undermentioned institutions or persons:

- Foreign missions located in Kenya and their expatriate staff.
- International institutions located in Kenya.
- All persons with external bank accounts.
- The headquarters of the East African Community corporations if not located in Kenya.

Foreign embassies in Kenya, since governments are regarded as indivisible, are treated as non-resident institutions. International organizations located in Kenya, such as the offices of the United Nations or the regional office of the World Bank, are also treated as non-resident institutions. An individual is defined as a non-resident if his or her centre of interest is abroad. An external bank account is regarded as an indication of this fact. This criterion is used in preference to that of length of stay. Non-resident individuals, in addition to the expatriate staff of foreign missions in Kenya, consist mainly of technical assistance personnel and the expatriate staff of international institutions.

3. As stated in Appendix 6, the parent company branch approach is adopted in analyzing the transaction of the East African Community corporations. The parent company is taken as located in the partner state where the headquarters of a corporation is situated. The parent company is regarded as being responsible for the borrowing and repayment of debt, for the receipt and payment of interest, and for the pension and depreciation funds. The locations of the headquarters of the various Community corporations are:

- East African Railways Corporation: Kenya.
- East African Airways Corporation: Kenya.
- Eastern Africa National Shipping Line: Kenya.
- East African Posts and Telecommunications Corporation: Uganda.
- East African Development Bank: Uganda.
- East African Harbours Corporation: Tanzania.

Foreign borrowing by the East African Railways Corporation, for example, is regarded as a liability of Kenya. The contributions by the Uganda and Tanzania branches of the East African Railways Corporation to the central pension and depreciation funds are treated as transfers to Kenya; the payment of pensions by the parent company to retired persons living in Tanzania, Uganda or abroad are treated as transfers by Kenya.

CURRENT ACCOUNT

Merchandise Transactions

4. The merchandise account is derived from an analysis of the data in the annual Trade Report compiled by the East African Customs and Excise Department from the documents they process. Exports are valued FOB (free on board) and imports CIF (cost, insurance, freight). The IMF manual recommends that exports should be valued at the last customs station through which they leave, and imports at the first customs station through which they enter. Kenya's valuation of exports corresponds with this definition. But the CIF valuation of imports does not, since the unloading charges are not included in the CIF valuation. Re-exports in the merchandise account are included with exports. Goods in transit, to or from other countries, and purchases of defence equipment from overseas are excluded from imports. Values stated in foreign currencies are converted to Kenya currency at the current rate of exchange at the time the goods cross the customs frontier.

5. The trade figures are corrected for coverage and valuation. Exports of ships' stores and bunkering, gold and exposed film are deducted from the trade figures. Ships' stores and bunkering are included with transactions recorded under other transportation and gold with the non-monetary gold transactions. Since exposed films are hired and not bought, the hire charges are included with transactions in other services. Imports by NAAFI and foreign missions are excluded because these are treated as transactions between non-residents. Merchandise purchases in Kenya by foreign missions and international institutions are treated as exports. Imports of aircraft and ships are separately added to imports as such purchases are omitted in the annual Trade Report compiled by the East African Customs and Excise Department. No estimates are made for irregular trade not passing through a customs station.

6. Adjustments are made to the merchandise transactions of the East African Community corporations. All purchases of locomotives and rolling stock by the East African Railways Corporation are debited in the first instance to Kenya. An imputed export to the branches in Uganda and Tanzania is then made, the allocations being based on ton miles operated in the partner states. Imports of aircraft and parts by the East African Airways Corporation are allocated on the basis of ownership; so too are purchases of ships by the Eastern Africa National Shipping Line. With the East African Harbours Corporation and the East African Posts and Telecommunications Corporation, it is assumed that in the annual Trade Report, which includes trade between the partner states, the imports of parent company and branches are correctly recorded. However, imports by the East African Community General Fund Services are adjusted and allocated amongst the partner states in proportion to the personal emoluments paid in them.

7. The only valuation adjustment made is for oil, both for imports and exports. Figures of landed imports and of exports of refined products are obtained from the refining and oil companies. The adjustments are equal to the difference between these values and those to be found in the annual Trade Report.

8. Ideally, imports and exports should be recorded in the annual Trade Report at the time the ownership of goods changes and not at the time they cross the customs frontier. When goods cross customs stations without there being a change of ownership, such movements should be recorded as changes in stocks held abroad or in Kenya. No information is available for estimating such timing adjustments.

Non-Monetary Gold Movements

9. Kenya's imports and exports of non-monetary gold are small. Since the Central Bank of Kenya neither buys nor sells gold, the complications of recording for monetary gold the difference between the official and transaction prices do not arise.

Freight on International Transactions

10. These transactions arise from:

- International and inter-state trade:

The revenue of the East African Airways Corporation from the carriage of goods exported from Kenya, or from any other country, is a payment to the Kenya parent company from the rest of the world, or from Tanzania or Uganda. The revenue from the carriage of imports into Kenya is also a credit in her balance of payments. Since Kenya's imports are valued CIF, this valuation overstates the payments made to the rest of the world when the imports are carried by a resident airline. Hence the need for an offsetting credit. However, against such receipts, the services performed by the Tanzania and Uganda branches of the East African Airways Corporation for the parent company need to be debited. The value of such services is equal to the value added of these branches. Since such services are performed for both freight and passenger carriage, only a part of the value of such services of the branches - in proportion to the Corporation's freight and passenger services - is debited under this heading. The rationale of this treatment and the way such estimates are made are dealt with in Appendix 6. The freight revenue of the Eastern Africa National Shipping Line is treated analogously.

- Transit trade:

The parent company of the East African Railways Corporation carries over its line Uganda's trade and also the trade of other neighbouring countries, such as Zaire, Malawi, Zambia and Sudan. The method of estimating such revenue is stated in Appendix 6.

Insurance on International Shipments

11. A special questionnaire is sent annually to all insurance companies and branches of foreign insurance companies located in Kenya to obtain the requisite information⁽³⁾. All premium receipts of such firms for the carriage of exports from Kenya or from any other country are a credit to Kenya's balance of payments. Some of these premiums are received from firms in Uganda and Tanzania who insure their goods with Kenya insurance firms. Insurance premiums paid by Kenya firms on imports into Kenya are also a credit. The CIF valuation of imports overstates the payments made abroad when the premiums are paid to resident insurance firms. This is offset by a credit entry. Claims paid to non-residents by insurance firms located in Kenya are a debit to Kenya's balance of payments, with one exception. The claims paid on lost or damaged imports into Kenya are excluded. On the assumption that the risk is borne and insured by Kenya importers, such claims are treated as a transaction between residents. Re-insurance of international trade risks by insurance firms in Kenya and claims paid on risks re-insured are recorded under other services and labour income.

Other Transportation

12. This sub-account consists of transactions relevant to:

- Air passenger transport revenue:

All payments to foreign airlines by Kenya residents are debited to Kenya's balance of payments. The requisite information is obtained from such airlines through a questionnaire. It is assumed that any revenue received in Kenya originates from residents of Kenya. It is also assumed that passenger revenue received from outside East Africa by the East African Airways Corporation represents a payment from the rest of the world. Information on such revenue from the rest of the world is obtained from the Corporation. The remaining passenger revenue, in the absence of any information, is assumed to accrue from residents of the partner states in proportion to their populations. Also in this sub-account, a part of the value of the services performed by the Tanzania and Uganda branches of the East African Airways Corporation - the part in respect of passenger operations - is debited to Kenya's balance of payments.

- Shipping passenger transport revenue:

Foreign shipping companies are circulated and the information obtained about passenger revenue received in Kenya - assumed to be from residents - is debited to Kenya's balance of payments. The passenger revenue of the Eastern Africa National Shipping Line is insignificant. It is dealt with in precisely the same way as that of the East African Airways Corporation.

(3) The annual Survey of Insurance Companies.

- Rail transport:
Strictly speaking, the passenger revenues received from non-residents by the parent company of the East African Railways Corporation should be credited to Kenya's balance of payments and similar payments by Kenya residents to the Uganda and Tanzania branches debited. Such revenues and payments, however, are not included in the balance of payments estimates owing to a lack of information.
- Bunkerage:
The value of fuel and other stores taken on board by foreign vessels and aircraft in Kenya is recorded as a credit entry in Kenya's balance of payments. This information is obtained from the airlines and shipping companies; such re-exports of fuel are checked against the figures published by the East African Customs and Excise Department. Similarly, the cost of fuel and stores purchased abroad by the East African Airways Corporation and the Eastern Africa National Shipping Line is debited to Kenya in its balance of payments estimates. This debit includes the value of fuel taken on board in Uganda and Tanzania by aeroplanes of the East African Airways Corporation.
- Port and airfield earnings:
Since Kenya's exports are valued FOB at the last customs station through which they pass and imports are valued CIF on board ship in Kenya ports, neither loading nor unloading charges are reflected in the merchandise account of Kenya's balance of payments. All loading, stevedoring and warehousing charges paid to the Kenya branch of the East African Harbours Corporation on Kenya's exports, or on those of other countries whose exports pass through Kenya ports, are a credit to Kenya's balance of payments. Payment for unloading Kenya's imports is not relevant, since it is a transaction between residents. But the receipts for unloading goods transited through Kenya are a credit. Marine charges and port dues paid to the Kenya branch of the East African Harbours Corporation, except those received from the Eastern Africa National Shipping Line, are credited to Kenya's balance of payments. Port dues paid abroad by the Eastern Africa National Shipping Line are debited. Similarly, aircraft landing fees paid in Kenya by foreign airlines are a credit and those paid by the East African Airways Corporation abroad, including those paid in Uganda and Tanzania, are a debit. The information is received from foreign aircraft companies - verified against the receipts of the Kenya Government - and from the East African Airways Corporation. Other expenditures in Kenya by foreign airlines and shipping companies are incurred on the maintenance and repair of their aircraft and ships and on the cost of running their offices here. Such expenditures are credited to Kenya's balance of payments. The equivalent expenditures abroad by the parent companies of the East African Airways Corporation and the Eastern Africa National Shipping Line are debited. Data are obtained from these corporations.

- Crew expenditures:

Expenditure in Kenya by crews of foreign aircraft and vessels are credited to Kenya's balance of payments; those made abroad by the crews of the East African Airways Corporation and the Eastern Africa National Shipping Line are debited. The information - except that on the expenditure of foreign shipping crews - is received from the companies concerned. That of foreign shipping crews is based on the number of crew days spent in Kenya ports and the average expenditure per day.

- On board expenditures:

Small, almost negligible, amounts are added to the passenger fares paid by Kenya residents to foreign airlines and shipping companies to cover their expenditures during travel. The corresponding expenditures of non-residents on the East African Airways Corporation flights or on the ships of the Eastern Africa National Shipping Line are included in their revenue receipts and have therefore been taken into account.

Foreign Travel

13. A substantial credit to Kenya's balance of payments accrues from the expenditures of visitors. Such expenditures are classified into those of:

- Tourists.
- Businessmen.
- Transit passengers.
- Students.

The Central Bureau of Statistics undertakes an analysis in depth of the number of documented visitors. The numbers of these visitors are classified by nationality, length of stay, and purpose of visit, that is, whether on holiday, on business or in transit. Estimates of the amounts spent by the people in each of these categories are obtained from a survey taken at airports and border stations. The amounts spent in Kenya cover prepayments - including air fares - made by tourists in their own country before starting their holiday. Thus, estimates can be made of expenditures in Kenya by tourists, businessmen and transit passengers. Estimates of student expenditures are made from information supplied by the Education Authorities. This enables their expenditure to be separated out from that of tourists.

14. A further small credit accrues to Kenya's balance of payments from the expenditure of undocumented transit passengers. Air passengers who come into the transit lounge of Kenya airports make some expenditure; as do those who, because of operational delays or lack of connections in air schedules, make overnight stops in Kenya. Sea passengers, too, who come temporarily ashore, make some purchases. The value of such expenditures is based on information obtained from the East African Airways Corporation and from the port officials in Mombasa.

15. On the debit side of the travel sub-account, estimates are made of expenditures on travel abroad by:

- Government officials.
- Private persons and businessmen.
- Students.

Separate figures are provided by the various Government departments on the costs of maintaining officials abroad on official duty. Such figures include salaries paid abroad. Similar figures are provided by the East African Community and they are allocated to the partner states in proportion to the salaries and wages paid in them by the East African Community. The Central Bank of Kenya provides a figure of total travel allowances remitted through commercial banks. Subtraction of expenditure by Government officials from this figure provides an estimate of expenditure by private persons and businessmen.

16. Students' travel expenditure is based on the average number of students abroad and the estimated average annual expenditure per student. This gives an estimate of the expenditure of students sponsored by the Government. However, many private residents of Kenya also pay for their children's education abroad. The Central Bank of Kenya provides an aggregate figure covering both expenditure on education and transfer of savings for maintenance of homes abroad. One fifth of this aggregate is taken as expenditure on education. An offsetting credit to such expenditure is the value of bursaries and scholarships given by foreign governments to Kenya residents. Such a credit is recorded as a private transfer in the balance of payments estimates.

International Investment Income

17. Estimates are made of investment income receipts and payments by:

- Private sector(4):
Income received and paid by the private sector is subclassified into:
 - direct investment income:
 - branch earnings,
 - dividends,
 - interest,
 - undistributed corporate earnings;
 - other income.

The relevant estimates of the credit and debit entries for direct investment income and its components are based on the annual Investment Survey conducted by the East African Statistical Department. Commercial banks and

(4) Includes firms in which the holding of equity capital by the public sector exceeds 50 per cent. See Appendix 5 for detail.

insurance companies, however, are not covered in this survey. The latter are covered by the annual Survey of Insurance Companies. Although direct investment income shows a net debit balance, there is quite a substantial credit in the form of branch earnings. Many companies registered in Kenya have branches in Tanzania and Uganda. Estimates obtained from the annual Investment Survey refer to income received or paid by firms, but not by private individuals. The Central Bank of Kenya provides estimates from its exchange control records of total interest and dividends received from abroad. The difference between these total receipts of the whole private sector and the dividends and interest receipts by firms provides an estimate of those received by private individuals. Not included in the Central Bank's figures is the interest received by Kenya residents on bank deposits with the Post Office Savings Bank which is regarded as a resident institution of Uganda. Information about such interest receipts is obtained from the East African Posts, and Telecommunications Corporation.

Central Government and municipalities:

Details on interest received by the Central Government - on its foreign assets - and on the interest it pays - on loans from foreign governments and foreign institutions and on its stock marketed abroad - are obtained from its accounts. A correction is made to these interest payments to allow for the fact that some of the stock marketed abroad is held by residents of Kenya. The Central Bank provides information on such interest paid to residents. A sizeable amount of such stock is held by the East African Community corporations. Only those corporations which have their headquarters in Kenya are regarded as residents of Kenya for this purpose. Also, some of the locally issued Central Government stock is held by non-residents. The Central Bank provides information on such holdings. A questionnaire is sent to all municipalities to obtain details on the amount of interest they receive from and pay to abroad.

Parastatal bodies:

The required information is obtained directly from the parastatal bodies.

East African Community corporations:

As stated in Appendix 6, the parent company alone is taken as being responsible for the payment and receipt of interest, for the borrowing and repayment of debt, and for the pension, sinking and depreciation funds. Information is supplied by these corporations on the income they receive on their foreign assets, including those of their pension and sinking funds, and

on the interest they pay on their foreign debt. Some of the stock marketed abroad by these corporations is held by residents of Kenya including the corporations themselves. As the interest paid is reported in full, a deduction is therefore needed to allow for interest received by residents.

The Central Bank provides the information needed to enable this to be done.

- Central Bank and commercial banks:

The Central Bank of Kenya provides figures on its income from abroad and on its payment of interest on deposits held by non-residents and on loans from the IMF. It also provides similar figures for the commercial banks.

Government Transactions nes

18. This sub-account includes the transactions of foreign governments and their representatives abroad with residents of Kenya; and those of the Kenya Government and its representatives abroad with residents of foreign countries. Such transactions are classified as follows:

- Non-military transactions:
 - wage payments to local staff,
 - diplomatic personnel expenditures,
 - all other operating expenses,
 - services under the aid programme.
- Military transactions:
 - wage payments to local staff,
 - troop personnel expenditures,
 - other transactions of military agencies.

Expenditures in Kenya by foreign governments and their representatives are a credit in Kenya's balance of payments. Information is received from the missions and international institutions directly. Conversely, the corresponding expenditures of the Kenya Government and its representatives abroad are a debit. Included amongst such expenditures are those incurred on advertizing and on agency and consultants' fees.

19. Services under the aid programmes covers the services of foreign experts and technical assistance personnel. It is assumed, in the first instance, that foreign governments and foreign institutions transfer funds to the Kenya Government which then uses them to buy the services of these experts. The amount is recorded as a credit receipt under government transfers and as a debit entry under government transactions nes.

20. One further entry not listed above concerns the East African General Fund Services. It is noted in Appendix 6 that Kenya's production of such services differs from her consumption of these services. The difference, either an import or export of such services, is recorded here as a government transaction.

Other Services and Labour Income

21. These consist of transactions related to:

- Insurance:

All insurance transactions, except insurance on international trade, are recorded in this sub-account. The value of insurance services is calculated as follows:

- insurance premiums received less all re-insurance payments,
- minus insurance claims paid less those paid from re-insurance,
- minus increase in actuarial reserves exclusive of interest received.

The value of insurance Services provided to non-residents is a credit in Kenya's balance of payments. The increase in actuarial reserve is a liability to non-residents and is recorded as a credit in the capital account under private long-term foreign assets and liabilities. The interest on the investment of life funds - regarded as accruing to non-resident policy holders - is recorded debit on the current account under international investment income. The required information is obtained through the annual Survey of Insurance Companies.

- Film rentals:

Information on rentals paid abroad by private film companies is obtained from the film distributors.

- Management fees:

Many branches in Kenya pay management fees to the foreign parent company. The information is obtained in the annual Investment Survey. Insurance companies and commercial banks are not covered by this survey; the information is obtained for them through the annual questionnaire completed by insurance companies and from the information supplied by the Central Bank. Management fees are also paid by the branches of the East African Community corporations to their parent companies.

- Subscriptions and advertizing:

The debit entry in the balance of payments for such transactions is based on an estimate made a few years ago from exchange control records. Such information is not currently available. Arbitrary additions are made to the base year figure.

- Margin on indirect imports:

Kenya acts as an entrepot centre for neighbouring countries, principally Uganda and Tanzania. The credit entry in Kenya's balance of payments is the mark-up on goods resold. This margin was assessed at 15 per cent in a survey conducted some years ago and the same percentage has been applied in subsequent years. This practice will be discontinued now that imports

are being recorded gross and not net of goods subsequently transferred to Tanzania and Uganda.

- Construction:

The Government frequently subcontracts out work to non-resident building and construction firms. Since the work is often of short duration, such firms do not normally set up branches in Kenya. The related transactions are recorded as a debit item in this sub-account to cover foreign costs on the wages and salaries of foreign personnel engaged on such projects, the depreciation of the contractor's equipment, and the contractor's profit net of any local taxes. Information is obtained by circularizing the firms concerned.

- Communications:

The Kenya branch of the East African Posts and Telecommunications Corporation both receives and pays for services provided to, or obtained from, the rest of the world. These receipts and payments are entered in this sub-account.

- Expenditure of technical assistance experts:

It is assumed that such experts, who are regarded as non-residents, spend one half of their total emoluments in Kenya. This amount is accordingly entered as a credit in this sub-account of the balance of payments.

- Labour income:

As explained in Appendix 6, one third of the wages and salaries of the aircrews employed by the East African Airways Corporation is allocated to the parent company and the branches. But the wages and salaries of crews who are residents of Kenya are larger than this. The difference is recorded here as factor income earned from abroad. A similar credit entry is made for the crews, who are mainly Kenya residents, employed by the Eastern Africa National Shipping Line as they, too, are mainly Kenya residents.

Private Transfers

22. This sub-account consists of the receipt and payment of private transfers.

Credit entries in this sub-account include:

- Receipts of religious and welfare institutions.
- Educational grants.
Immigrants' transfers.
- Miscellaneous transactions.

Questionnaires are sent to all religious and welfare institutions to obtain information on their receipts from abroad in cash and in kind. Returns on educational

grants are received both from foreign governments and private institutions. Eighty per cent of the expenditure abroad by students sponsored by the Government, and included under foreign travel, is assumed to be covered by grants. The estimate on immigrant transfers is based on the number of permanent immigrants and the

estimated amount of currency such immigrants bring with them. Under miscellaneous transactions In this sub-account are included remittances received from abroad through the post office and the pensions received by retired Kenya residents from the parent companies of the East African Posts and Telecommunications Corporation and of the East African Harbours Corporation. These parent companies are regarded as non-resident since their headquarters are located in Uganda and Tanzania respectively.

23. Debit entries consist of:

- Football pools and lottery tickets.
- Personal remittances.
- Emigrants' transfers.

Remittances for football pools and lotteries are estimated at 10 times the pool tax receipts of the Central Government. Estimates on personal remittances to the rest of the world as savings or to cover educational and maintenance costs are obtained from exchange control records. Four fifths of this amount is included as personal remittances. Remittances abroad through Kenya post offices are added to this figure. Emigrants' transfers consist of remittances by expatriate farmers, who are being bought out under loan purchase and settlement schemes, and of other funds repatriated by emigrants. The former are put at 85 per cent of the grants received from the British Government for this purpose. The details on the latter are derived from exchange control records.

Government Transfers

24. These consist of:

- Current grants:
The Central Government, as stated in paragraph 19, is assumed to receive grants from foreign governments and institutions to pay the salaries of technical assistance personnel. These receipts are recorded in this sub-account as a contra entry to the payments to these non-residents recorded under government transactions. The Central Government also receives grants from foreign governments and institutions for many other purposes. Of these, the current grants are recorded in this sub-account and capital grants in the capital account. This procedure is a departure from the concepts of the IMF manual but is in agreement with those of the SNA manual.

- Pensions paid to retired persons:
The Central Government pays pensions abroad to retired civil servants living in Uganda, Tanzania and the rest of the world. These are recorded here as a debit.
- Transfers of the East African Community:
The East African Community General Fund Services, whose headquarters is located in Tanzania, receives transfers of tax revenue from the Kenya Government. But Kenya receives transfers from the Community headquarters to pay for its expenditures in Kenya. The relevant debit and credit entries are recorded in this sub-account. Also recorded as a debit, are the transfers made by the parent company of the East African Railways Corporation, which is located in Kenya, to pay for the pensions of its retired staff living in Tanzania, Uganda and the rest of the world. Recorded as debits, too, are the contributions made by the Kenya branches of the East African Post and Telecommunications Corporation and of the East African Harbours Corporation to the depreciation and pensions funds administered by their parent companies located, respectively, in Uganda and Tanzania. Similar contributions by the Uganda and Tanzania branches of the East African Railways Corporation to the pension and depreciation funds administered by their parent company in Kenya is recorded as a credit in Kenya's balance of payments. The pensions received by residents in Kenya from the parent companies of the East African Posts and Telecommunications Corporation and the East African Harbours Corporation are another credit entry in Kenya's balance of payments.

CAPITAL ACCOUNT: CAPITAL MOVEMENTS

Private Long-Term Assets and Liabilities

25. Changes in private assets and liabilities arising from external transactions are classified in the following categories:

- Direct investment capital:
 - undistributed earnings,
 - other direct investment by:
 - subsidiary companies,
 - branches,
 - other.
- Changes in assets held in other countries by:
 - branches
 - subsidiary companies.
- Other changes in:
 - holdings or ordinary and preference shares,
 - holdings of other securities.

- net change in trade credits,
- drawings on loans,
- repayment of loans,
- change in actuarial reserves of insurance companies,
- investment by foreign missions in real estate in Kenya.

Most of the Information is obtained from the annual Investment Survey. The securities of private companies resident in Kenya held by the parent companies of the East African Posts and Telecommunications Corporation or the East African Harbours Corporation are treated as a liability of the private sector. Loans to private companies by the East African Development Bank or by the Commonwealth Development Corporation are recorded as a credit. The annual Investment Survey covers enterprises only and no information is available on purchases of real estate abroad by residents of Kenya.

Government Long-Term Assets and Liabilities

26. The treatment of changes in the Government's assets and liabilities through external transactions is in conformity with the concepts of the IMF manual with the one exception already mentioned in paragraph 24, namely, that capital grants are included here and not under government transfers. This is, however, in conformity with the SNA manual. Capital grants are defined as those recorded in the Development Appropriation Account. They are used to finance capital projects. The changes in long-term foreign assets and liabilities of the Central Government and local authorities consist of:

- Capital grants from:
 - foreign governments,
 - foreign institutions.
- Changes in stock holdings in respect of foreign issues:
 - new issues,
 - retirements.
- Changes in holdings of foreign loans:
 - from foreign governments:
 - drawings,
 - repayments;
 - from foreign institutions:
 - drawings,
 - repayments.
- Changes in other liabilities.
- Changes in other long term assets.

The information is obtained from the various Government departments, the municipalities and the Central Bank of Kenya.

27. Changes in assets and liabilities of the East African Community corporations are recorded also in this sub-account. Their transactions are, however, shown separately in the published balance of payments estimates⁽⁵⁾. The information is obtained from the respective corporations. The Kenya parent companies of these corporations are assumed responsible for the borrowing and retirement of debt, and for the administration of their pension, sinking and depreciation funds. The imputed loans by Kenya parent companies to their branches, to finance gross capital formation in the country of the branch, are recorded in this sub-account as a debit. Conversely, the liability in respect of similar transactions of Kenya branches of the East African Posts and Telecommunications Corporation and East African Harbours Corporation is recorded as a credit. Purchases by the Kenya parent companies of these corporations of their own stock marketed abroad are regarded as a decrease in a foreign liability.

Short-Term Assets and Liabilities

28. Changes in short-term assets and liabilities are recorded in respect of the:

- Government.
- Commercial banks.
- Other private institutions.

Only changes in the Government's short-term foreign assets and liabilities that do not serve as its foreign exchange reserves, or as the foreign exchange reserves of foreign central monetary authorities, are covered in this sub-account. Information on changes in the foreign assets and liabilities of the commercial banks is provided by the Central Bank. Long-term loans made by a foreign parent bank to its branches in Kenya are treated as direct investment and recorded under private long-term assets and liabilities.

29. Other changes in short-term assets and liabilities from private transactions occur in the undermentioned foreign assets and liabilities:

- Assets:
 - currency and bank deposits,
 - other short-term assets.
- Liabilities:
 - trade credits,
 - other liabilities.

Information about changes in Kenya firms' holdings of foreign currency and bank deposits held abroad and in their holdings of foreign short-term assets is obtained through the annual Investment Survey. Dividends and interest due, but not paid, to

(5) See Table 4 in Appendix 2.

residents by foreign companies and those due, but not paid, to non-residents by resident firms are entered respectively as a change in short-term assets or liabilities. Dividends due to non-residents and which are paid into blocked bank accounts are regarded as a liability of the commercial banks. The net change in short-term trade credit is estimated as the difference between imports in December of the current year and those in the previous December. This assumes that importers in Kenya are accorded, on average, one month's credit after the goods arrive in Kenya.

CAPITAL ACCOUNT: CENTRAL MONETARY AUTHORITIES

30. The undermentioned information is supplied by the Central Bank on its reserve position and on the changes in other assets and liabilities of the Central Monetary Authorities:

- Reserve Position in Fund or Use of Fund Credit:
 - Effective subscription payments to IMF.
 - Loans to IMF.
 - Kenya currency held by IMF.
 - Drawings by Kenya under compensatory financing policies to IMF.
- Special Drawing Rights:
 - Holdings.
 - Counterpart liability.
- Other Foreign Assets and Liabilities:
 - Changes in foreign assets held by:
 - Central Bank of Kenya,
 - Government.
 - Changes in foreign assets held by:
 - deposits of non-resident banks other than IMF,
 - deposits of other non-residents.
 - Valuation changes.

The change in the reserve position with the IMF, or in the use of fund credit if negative, is the sum of the effective subscription payments to the IMF and loans to the IMF minus the sum of Kenya currency held by the IMF and drawings by Kenya under compensatory financing policies. Only changes in the short-term assets of the Government that form part of the foreign exchange reserves are included here. The Central Bank of Kenya records its foreign assets and liabilities in terms of Kenya currency. Part of the change in its foreign assets and liabilities may be due to changes in the foreign exchange rate. The counterpart of such changes from shifts in the exchange rate is recorded under valuation changes.

Chapter 18

OTHER AGGREGATES AND ACCOUNTS

1. So far, the report has described the methods and sources used for estimating gross domestic product at factor cost, gross capital formation and the various balance of payments estimates. This chapter deals with the remaining aggregates and accounts which are prepared for Kenya and which have not yet been explained⁽¹⁾. These are:

- Gross Domestic Product at Market Prices.
- Use of Resources.
- Gross National Product.
- Investment Account.

ESTIMATES AT CURRENT PRICES

Gross Domestic Product at Market Prices

2. This aggregate is the sum of gross domestic product at factor cost plus indirect taxes less subsidies. As gross domestic product at factor cost is the value added for the whole economy, the derivation of which has been related sector by sector in Chapters 3 to 15, no further elaboration is needed here. Indirect taxes and subsidies are obtained from the published accounts of the Central Government. However, as explained in Chapter 15, a small adjustment has to be made to the figure for indirect taxes to take cognizance of the SNA's concept of indirect taxes; households, according to the manual, do not pay indirect taxes. It is the adjusted figure for indirect taxes which is used to calculate gross domestic product at market prices.

(1) As will become apparent later in the chapter, these aggregates and accounts are mainly formulated using estimates whose derivation has already been discussed in previous chapters. Appendix 2 illustrates numerically the relationships between the various accounts.

Use of Resources

3. This account, which includes gross domestic product at market prices as described above, is: set out as follows:

- Total Supply of Resources:
 - Gross domestic product at market prices.
 - Imports of goods and services.
- Total Use of Resources:
 - Gross capital formation.
 - Exports of goods and services.
 - Public consumption
 - Private consumption.

Imports of goods and services and exports of goods and services are aggregates from the external accounts covered in Chapter 17, while the estimates of public consumption and gross capital formation have been discussed in Chapters 15 and 16 respectively. At present, private consumption is derived as a residual. It is the difference between gross domestic product at market prices and the sum of gross capital formation, public consumption, and imports of goods and services minus exports of goods and services.

Gross National Product

4. To derive gross national product, net factor income payable abroad is deducted from gross domestic product at market prices. Net factor income payable abroad consists of investment income paid abroad less investment income earned abroad plus labour income paid to non-residents less the income of residents earned abroad. These four aggregates are abstracted from the balance of payments estimates of Chapter 17.

Investment Account

5. This account is concerned with the financing of gross capital formation. It consists of the following:

- Gross Capital Formation:
 - Gross fixed capital formation.
 - Change in stocks.
- Financed By:
 - Net borrowing from rest of the world.
 - Capital transfers from rest of the world.
 - Domestic saving, including consumption of fixed capital.

Aggregates on net borrowing and capital transfers from the rest of the world are obtained from the external accounts. The estimate on domestic saving is derived as a residual. It is the difference between gross capital formation and the sum of net borrowing and capital transfers from the rest of the world.

ESTIMATES AT CONSTANT PRICES

Gross Domestic Product at Market Prices

6. The deflators employed to derive value added for each sector of activity at constant prices have been described in Chapters 3 to 15. The sum of these constant price estimates of value added over all sectors gives the gross domestic product at constant factor cost. To this must be added the difference between the constant price estimates of indirect taxes and subsidies in order to arrive at gross domestic product at constant market prices.

7. Constant price estimates of indirect taxes - which can be subclassified into import duties, excise duties, sales tax and other taxes - and subsidies are calculated as follows:

- Base year imports duties are run forward on the Import Quantum Index⁽²⁾.
- Receipts on excise duties are disaggregated into those from levies on beer, spirits and mineral waters; sugar, cigarettes and tobacco; and other excise duties. The receipts in the base year for the first two categories are run forward on quantity indices derived from the value of the relevant component outputs at constant prices. The figure for other excise duties in the base year is run forward on a weighted average of these separate quantity indices.
- Collection of sales tax in the base year is run forward on the value added at constant prices for wholesale and retail trade activities. A more refined calculation for sales tax cannot be undertaken since details on sales tax receipts classified by commodity on which the tax is levied are not available.
- All other indirect taxes at current prices are deflated by an index derived by dividing the aggregate current value of import duties, excise duties, and sales tax by the comparable aggregate at constant tax rates.
- The base year figure of subsidies is run forward on a quantity index of fertilizer inputs.

(2) See footnote 6 of Chapter 3.

Use of Resources

8. Besides gross domestic product at current market prices, the current price aggregates which need to be deflated for the use of resources account are:

- Imports of goods and services.
- Exports of goods and services.
- Gross capital formation.
- Public consumption.
- Private consumption.

Constant price estimates of imports of goods and services and exports of goods and services are derived by deflating the current price estimates with the Import Quantum Index and the Export Quantum Index. The deflation of the current price estimates of public consumption and gross capital formation has been discussed in Chapters 15 and 16 respectively. As in the case of the current price estimate, the constant price estimate of private consumption is obtained as a residual.

Gross National Product and Investment Account

9. No attempt is made to estimate either at constant prices; no acceptable solution has been derived to deflate net payments from the rest of the world.

"Real" Gross Domestic Product

10. This estimate is obtained by adjusting gross domestic product at constant prices to take account of changes in the terms of trade. The adjustment made is equal to the value of exports of goods and services at constant prices, less the value of exports of goods and services at current prices divided by the Import Price Index. This difference, if positive, is subtracted from gross domestic product at constant prices; and, if negative, added.

11. An alternative adjustment would be to calculate the difference between the value of imports of goods and services at constant prices, and the value of imports of goods and services at current prices divided by the Export Price Index. This difference, if negative, would be subtracted from gross domestic product at constant prices. Such an adjustment would be appropriate if the interest lay in resources, that is, the estimation of additional exports needed to compensate for the change in the terms on which imports can be acquired. This alternative approach however, is not adopted.

Chapter 19

FUTURE DEVELOPMENT OF NATIONAL ACCOUNTS

1. Advancement of national accounts is a continuous process. The numerous surveys now being conducted provide a much firmer foundation for many of the estimates than was the case a few years ago. Measures being taken currently to develop basic statistics will further enhance the quality of estimates and make it possible to enlarge the scope of national accounts.

2. The improvement and expansion of national accounts is to be undertaken with various objectives in mind. These are to:

- Provide estimates of the gross domestic product by regions; with a further breakdown of the regional aggregates into urban and rural areas. Work has already started on this task and some of the results are expected to be published in the national accounts publication outlined in Appendix 3.
- Adopt a more integrated approach to national accounting. This would entail making the estimates simultaneously from the production and expenditure sides. A first attempt has been made in this direction and the results are presented in Table 19.1. In this table, however, the estimates were not prepared simultaneously from the production and expenditure sides. They were formulated subject to the constraints that key figures - such as value of production by activity, intermediate consumption, total private and public consumption, and total exports and imports - had to agree with the already prepared national accounts estimates. Liberal use was made of the 1971 Input-Output Table(1) in their derivation. The new information being obtained on household expenditure in the annual Integrated Rural Survey and other surveys should facilitate the more integrated approach being adopted.

(1) For further details see the publication referred to in footnote 8 of Chapter 2.

| Activity | Supply of Goods and Services | | | | Total Supply at Purchaser Prices | Disposition (at Purchaser Prices) | | | | | |
|----------------------------|------------------------------------|-------------------------------|---------------|----------------------------------|----------------------------------|-----------------------------------|------------------------------|--------------------------------------|-------------------------|------------------|-------------------------------|
| | Domestic Supply at Producer Prices | Imports of Goods and Services | Import Duties | Transport and Distribution Costs | | Intermediate Consumption | Households Final Consumption | General Government Final Consumption | Fixed Capital Formation | Change in Stocks | Exports of Goods and Services |
| TRADITIONAL ECONOMY: | | | | | | (K£ million) | | | | | |
| Forestry | 5.9 | - | - | - | 5.9 | 1.5 | 4.4 | - | - | - | - |
| Fishing | 0.2 | - | - | - | 0.2 | - | 0.2 | - | - | - | - |
| Building & Construction | 24.6 | - | - | - | 24.6 | 4.0 | - | - | 20.6 | - | - |
| Water Collection | 5.5 | - | - | - | 5.5 | - | 5.5 | - | - | - | - |
| Ownership of Dwellings | 24.2 | - | - | - | 24.2 | - | - | - | - | - | - |
| MONETARY ECONOMY: | | | | | | | | | | | |
| Agriculture | 348.8 | 11.6 | 0.7 | 29.0 | 390.1 | 98.0 | 212.2 | - | 5.0 | 1.5 | 73.4 |
| Forestry | 7.0 | 0.3 | - | 0.9 | 8.2 | 2.3 | 2.7 | - | - | 1.8 | 1.4 |
| Fishing | 1.9 | 0.2 | - | 0.2 | 2.3 | 0.4 | 1.6 | - | - | - | 0.3 |
| Mining & Quarrying | 10.2 | 1.2 | 0.2 | 2.0 | 13.6 | 8.9 | - | - | - | - | 4.7 |
| Prospecting for Oil | 0.2 | 87.4 | - | 10.1 | 97.7 | 97.7 | - | - | - | - | - |
| Slaughtering and Canning | 9.5 | 0.8 | 0.1 | 1.8 | 12.2 | 2.6 | 3.0 | - | - | - | 6.6 |
| Dairy Production | 20.4 | 0.6 | - | 3.9 | 24.9 | 2.3 | 18.7 | - | - | - | 3.9 |
| Canning etc Fruit & Veg. | 6.7 | 0.6 | 0.3 | 1.1 | 8.7 | 0.4 | 3.4 | - | - | - | 4.9 |
| Grain Mill Production | 33.8 | 0.5 | - | 3.6 | 37.9 | 10.7 | 25.8 | - | - | - | 1.4 |
| Bakery Production | 11.8 | 0.4 | 0.1 | 2.0 | 14.3 | 0.7 | 13.0 | - | - | - | 0.6 |
| Sugar Production | 19.5 | 2.9 | 1.1 | 3.4 | 26.9 | 3.6 | 22.4 | - | - | - | 0.9 |
| Misc. Food Production | 27.5 | 5.4 | 0.7 | 6.2 | 39.8 | 6.5 | 12.1 | - | - | - | 21.2 |
| Spirits, Wine & Beer Prod. | 38.8 | 2.2 | 2.1 | 6.3 | 49.4 | 18.8 | 29.6 | - | - | - | 1.0 |
| Mineral Water Production | 9.5 | 0.4 | - | 1.6 | 11.5 | 1.2 | 9.6 | - | - | - | 0.7 |
| Tobacco Production | 18.4 | 0.6 | 0.2 | 3.0 | 22.2 | 1.1 | 20.1 | - | - | - | 1.0 |
| Cotton Ginning | 1.2 | 0.5 | - | 0.3 | 2.0 | 2.0 | - | - | - | - | - |
| Textile Material Prod. | 11.7 | 11.2 | 6.4 | 4.8 | 34.1 | 18.2 | 14.5 | - | - | - | 1.4 |
| Cordage & Rope Production | 6.6 | 0.3 | - | 1.7 | 8.6 | 7.1 | - | - | - | - | 1.5 |
| Blanket Production | 4.6 | 0.2 | - | 0.6 | 5.4 | 0.4 | 4.9 | - | - | - | 0.1 |
| Knitting & Garment Prod. | 21.6 | 5.6 | 2.8 | 4.8 | 34.8 | 2.5 | 29.9 | - | - | - | 2.4 |
| Made-up Textile Prod. nec | 2.8 | 2.4 | 0.9 | 1.0 | 7.1 | 0.7 | 5.9 | - | - | - | 0.5 |
| Footwear Production | 6.0 | 1.1 | 0.4 | 1.5 | 9.0 | 0.2 | 8.3 | - | - | - | 0.5 |
| Sawmill Production | 13.6 | 0.4 | 0.1 | 3.9 | 18.0 | 17.2 | 0.4 | - | - | - | 0.4 |
| Furniture Production | 11.0 | 0.4 | 0.2 | 1.6 | 13.2 | 3.1 | 6.1 | - | 2.4 | - | 1.6 |
| Paper Production | 18.5 | 10.4 | 2.1 | 11.9 | 42.9 | 39.7 | 1.0 | - | - | -4.0 | 6.2 |
| Printing & Publishing | 27.6 | 3.4 | 0.3 | 7.7 | 39.0 | 30.8 | 6.1 | - | - | - | 2.1 |
| Leather & Fur Production | 3.2 | 0.5 | 0.3 | 1.4 | 5.4 | 1.3 | 3.3 | - | - | - | 0.8 |

Table 19.1 SUPPLY AND DISPOSITION OF GOODS AND SERVICES

| Activity | Supply of Goods and Services | | | | Total Supply at Purchaser Prices | Disposition (at Purchaser Prices) | | | | | |
|-----------------------------|------------------------------------|-------------------------------|---------------|----------------------------------|----------------------------------|-----------------------------------|------------------------------|--------------------------------------|-------------------------|------------------|-------------------------------|
| | Domestic Supply at Producer Prices | Imports of Goods and Services | Import Duties | Transport and Distribution Costs | | Intermediate Consumption | Households Final Consumption | General Government Final Consumption | Fixed Capital Formation | Change in Stocks | Exports of Goods and Services |
| Rubber Production | 10.9 | 2.8 | 0.6 | 3.3 | 17.6 | 11.6 | 5.3 | | | | 0.7 |
| Petroleum & Coal Prod. | 99.6 | 11.7 | 13.0 | 44.9 | 169.2 | 91.5 | 14.2 | | | -9.1 | 72.6 |
| Paint & Varnish Prod. | 4.8 | 0.3 | 0.1 | 1.3 | 6.5 | 4.6 | 1.6 | | | | 0.3 |
| Soap & Detergent Prod. | 15.3 | 0.5 | 0.2 | 3.0 | 19.0 | 0.9 | 17.3 | | | | 0.8 |
| Other Chemical Production | 56.5 | 42.7 | 4.0 | 18.3 | 121.5 | 91.6 | 18.4 | | | -2.0 | 13.5 |
| Cement Production | 13.0 | | | 2.6 | 15.6 | 9.5 | | | | | 6.1 |
| Glass & Pottery Prod. | 2.4 | 2.4 | 0.8 | 1.5 | 7.1 | 3.9 | 2.1 | - | 0.3 | | 0.8 |
| Misc. Non-metallic Material | 6.2 | 1.9 | 0.5 | 2.0 | 10.6 | 8.6 | 1.8 | | | | 0.2 |
| Metal Production | 45.3 | 28.4 | 5.2 | 15.3 | 94.2 | 79.9 | 9.0 | | 1.9 | -2.0 | 5.4 |
| Non-electrical Machinery | 6.2 | 39.7 | 5.4 | 16.5 | 67.8 | 13.4 | 1.5 | - | 49.5 | - | 3.4 |
| Electrical Machinery | 19.6 | 18.5 | 3.6 | 10.1 | 51.8 | 21.6 | 11.0 | - | 18.3 | - | 0.9 |
| Transport Equip. & Repairs | 39.8 | 46.8 | 13.2 | 17.5 | 117.3 | 65.5 | 13.9 | - | 34.1 | - | 3.8 |
| Miscellaneous Manufactures | 9.6 | 9.6 | 2.7 | 5.3 | 27.2 | 10.8 | 14.9 | - | - | - | 1.5 |
| Building & Construction | 139.5 | 0.8 | - | - | 140.3 | 37.6 | - | - | 102.7 | - | - |
| Electricity Supply | 14.0 | 0.6 | - | - | 14.6 | 11.5 | 2.6 | - | - | - | 0.5 |
| Water Supply | 7.2 | 0.1 | - | - | 7.3 | 4.6 | 2.5 | - | - | - | 0.2 |
| Trade & Distribution | 159.1 | 0.3 | - | -159.4 | - | - | - | - | - | - | - |
| Restaurants & Hotels | 50.9 | 3.1 | - | - | 54.0 | 8.0 | 14.2 | - | - | - | 31.8 |
| Rail Transport | 26.9 | 0.1 | - | -14.4 | 12.6 | - | 1.0 | - | - | - | 11.6 |
| Air Transport | 39.9 | 12.7 | - | -10.3 | 42.3 | - | 12.0 | - | - | - | 30.3 |
| Road Transport | 38.1 | - | - | -25.1 | 13.0 | - | 12.5 | - | - | - | 0.5 |
| Water Transport | 34.2 | 1.1 | - | -18.9 | 16.4 | - | 0.4 | - | - | - | 16.0 |
| Other Transport Services | 10.9 | 8.6 | - | -10.9 | 8.6 | - | - | - | - | - | 8.6 |
| Post & Telecommunications | 20.7 | 3.0 | - | -18.9 | 4.8 | - | 3.1 | - | - | - | 1.7 |
| Financial Services | 51.9 | 3.4 | - | - | 55.3 | 44.7 | 7.9 | - | - | - | 2.7 |
| Ownership of Dwellings | 53.6 | 0.4 | - | - | 54.0 | - | 51.6 | - | - | - | 2.4 |
| Government Administration | 103.6 | - | - | - | 103.6 | 1.7 | - | 101.9 | - | - | - |
| Education | 84.8 | 5.9 | - | - | 90.7 | 0.2 | 12.6 | 77.9 | - | - | - |
| Health | 32.2 | - | - | - | 32.2 | - | 8.0 | 24.2 | - | - | - |
| Defence | 24.0 | - | - | - | 24.0 | - | - | 24.0 | - | - | - |
| Business Services | 22.1 | 0.3 | - | - | 22.4 | 20.7 | 1.6 | - | - | - | 0.1 |
| Recreation Services etc | 14.5 | 2.7 | - | - | 17.2 | 2.9 | 11.3 | - | - | - | 3.0 |
| Other Personal Services | 15.7 | 0.3 | - | - | 16.0 | - | 15.7 | - | - | - | 0.3 |
| TOTAL ECONOMY | 2025.8 | 400.2 | 68.3 | 0 | 2494.3 | 929.2 | 756.9 | 228.0 | 234.8 | -13.8 | 359.2 |

Table 19.1 SUPPLY AND DISPOSITION OF GOODS AND SERVICES (Contd.)

Table 19.2 SOCIAL ACCOUNTING MATRIX FOR KENYA 1976: CURRENT ACCOUNT

| INCOME TO (rows)/EXPENDITURE BY (columns): | | | Row No. |
|--|-----------------|--|----------------------------------|
| F A C T O R S | | Unskilled and semi-skilled workers Skilled workers Professionals Other employees Operating surplus Depreciation | 01 02 03 04 05 06 |
| I N S T I T U T I O N S | HOUSE- HOLDS | Urban households - landless with income < 6,000 Shs. p.a. | |

Note: Only the row headings are shown as the column headings will correspond to those of the rows.

Table 19.2 SOCIAL ACCOUNTING MATRIX FOR KENYA 1976 (Contd): CAPITAL ACCOUNT

| INCOME TO (rows)/EXPENDITURE BY (columns): | | | | Row No. |
|--|-------------|--|--|---------|
| REST OF WORLD | | Capital transactions | | 50 |
| INSTITUTIONS | HOUSEHOLDS | Urban households with income < 6,000 Shs. p.a. | | 51 |
| | | ≥6,000 Shs. p.a. | | 52 |
| | | Rural " " " <3,000 Shs. p.a. | | 53 |
| | | ≥3,000 Shs. p.a. | | 54 |
| | COMPANIES | Private non-financial enterprises | | 55 |
| | | Non-financial parastatal bodies and public companies | | 56 |
| | | Banks | | 57 |
| | | Other financial institutions | | 58 |
| | GOVERNMENT | Central government | | 59 |
| | | Local authorities | | 60 |
| FINANCIAL | INSTRUMENTS | Domestic currency | | 61 |
| | | Bank deposits | | 62 |
| | | Other domestic deposits | | 63 |
| | | Treasury bills | | 64 |
| | | Bank advances | | 65 |
| | | Other domestic lending/borrowing | | 66 |
| | | Other foreign lending/borrowing - short term private | | 67 |
| | | " " " " - long " government | | 68 |
| | | " " " " - long " private | | 69 |
| | | " " " " - " " government | | 70 |
| | | Official reserves | | 71 |
| | | TOTAL | | |

- Undertake the preparation of a social accounting matrix (SAM). Table 19.2 illustrates the provisional framework of the matrix proposed for 1976. Before the SAM can be compiled, however, a new input-output table has to be constructed. Work on both is scheduled to start in 1978.
- Compile accounts that have a bearing on social phenomena. In this respect, the institutional classifications used in the SAM are of fundamental importance. The forthcoming development plan will focus on the alleviation of poverty and, therefore, the "working poor"(2) should be identified in the SAM. The institutional classifications shown in Table 19.2 are only tentative; the Labour Force Survey now underway will indicate the appropriate classifications.
- Improve the long-term planning model used by the Kenya Government. With the aid of information from the SAM, it should be possible for the model not only to provide the usual projections - of sector outputs, sector investment, foreign loans required, etc - but also show the effect of any development plan on the incomes of households including those of the working poor.

(2) Employment, Incomes and Equality in Kenya, International Labour Office, Geneva, 1977.

Appendix 1

A BRIEF HISTORY OF NATIONAL ACCOUNTING IN KENYA

1. The first official estimates of the domestic income and product of Kenya were prepared by the East African statistical Department for the year 1947(1). The main sources of information for these estimates were the annual censuses of employment, data on the output of the agriculture sector and the accounts of government and other public organizations. The quality of the estimates was seriously undermined by the lack of information on income from rents, interest, profits and self-employment and by the limited data on the output of the manufacturing and service sectors. The estimates essentially covered the monetary economy. Indeed, except for a weak estimate for subsistence production by the agriculture sector, no attempt was made to value other activities outside the monetary economy. The methodology and sources established for the 1947 estimates were by and large retained for the following decade.

2. Subsequently, the East African Statistical Department progressively expanded its data collection activities. Surveys of industrial production were conducted in 1954, 1956 and 1957 and a sample census of agriculture was undertaken in 1950/51. Substantial improvements were also achieved in the coverage and detail of existing sources of data such as income tax files. Further, during this period, considerable experience was gained in East Africa in adapting the methodology of national accounting to the conditions to be found there. Hence, in 1957, a major revision of the original series was effected and the details on sources and methods published(2).

3. In this series, which covered the years 1954-1966, the procedures and terminology recommended by the United Nations(3) were followed with minor modifications

- (1) National Income and Output of the Colony and Protectorate of Kenya 1947-1948, East African Statistical Department, Nairobi, October 1949.
- (2) Domestic Income and Product in Kenya (A Description of Sources and Methods with Revised Calculations from 1954 to 1958), East African Statistical Department, Nairobi, September 1959.
- (3) A System of National Accounts and Supporting Tables (Series F, No. 2), United Nations, New York, 1953.

to suit Kenyan circumstances. The quality of the estimates was generally better than that in the previous series. Nevertheless, the reliability of the estimates on gross product of agriculture, quarrying, distribution and ownership of dwellings was still weak. This was principally due to the problems encountered in trying to quantify and value activities outside the recorded monetary economy which had been expanded to include non-monetary production of livestock and similar production associated with forestry, hunting and fishing. The difficulty of obtaining adequately disaggregated data on the operating surplus of private enterprises, particularly those in the construction and service sectors, was also a limiting factor. The new series, in addition to the estimates of domestic product and income, also provided estimates of capital formation for the first time(4).

4. The second major revision to the national accounts series was undertaken in 1967(5) and the third series of national accounts produced. It incorporated the new economic data that had become available since the initial compilation of the second series and benefited from an improved classification and subclassification of enterprises(6). Also a more comprehensive estimate of the size of the non-monetary economy was attempted. Besides those non-monetary activities mentioned above, estimates were made of the non-monetary production of building and construction, water collection and ownership of dwellings. However, such estimates, too, were weak being based on limited data and, in some cases, on questionable assumptions .

5. Up until 1969, all the series consisted of estimates at current prices. In that year the estimates of the third series were also published at constant prices(7). The base year for the constant prices estimates was 1964. Another significant revision in the third series was the gradual adoption, so far as was consistent with the Kenya situation, of the definitions laid down in the new United Nations System of National Accounts(8). This third series was continued until 1974, when the third major revision to the national accounts was undertaken.

6. The current series, which is the fourth to be published on national accounts, was introduced in 1976(9). The estimates in this series have been backdated to 1972, which is also the base year for the new estimates at constant prices.

(4) Capital Formation in Kenya 1954-1960, East African Statistical Department, Nairobi, July 1961.

(5) Economic Survey 1967, Statistics Division, Ministry of Economic Planning and Development, Nairobi, June 1967.

(6) The Kenya adaption of the 3-digit system of the United Nations as found in International Standard Industrial Classification of All Economic Activities (Series M, No. 4, Rev. 1), United Nations, New York, 1958.

(7) Economic Survey 1969, Statistics Division, Ministry of Economic Planning and Development, Nairobi, June 1969.

(8) A System of National Accounts (Series F, No. 2, Rev. 3), United Nations, New York, 1968.

(9) Economic Survey 1976, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, June 1976.

Appendix 2

SCHEMATIC OUTLINE OF SOME KEY ACCOUNTS

1. The chapters in this report describe the methods and sources currently being used by the Central Bureau of Statistics in the compilation of Kenya's national accounts. The tables in this appendix present the outlines of the principal accounts discussed in these chapters. The accounts and chapters to which the tables refer are listed below:

- Table 1 Production Account : Chapters 3 to 15.
- Table 2 Value Added : Chapters 3 to 15.
- Table 3 Gross Capital Formation: Chapter 16.
- Table 4 Balance of Payments : Chapter 17.
- Table 5 Use of Resources : Chapter 18.
- Table 6 Gross National Product Chapter 18.
- Table 7 Investment Account : Chapter 18.

2. Except for Table 4, which is primarily a reconciliation between the balance of payments estimates and the external account aggregates used in other accounts, the tables follow formats similar to those found in the annual series of Economic Surveys and Statistical Abstracts. However, some modifications have been introduced in order to facilitate comprehension of the structure, composition and relationships of the various accounts.

3. The figures shown in the tables are provisional estimates for a past year. Because of rounding, figures and sub-totals will not necessarily sum exactly to the totals indicated.

Table 1 PRODUCTION ACCOUNT

(K£ million)

| Activity | TOTAL | | | | Gross Output | PUBLIC SECTOR | | | | Gross Output | PRIVATE SECTOR | | | |
|--|--------------|--------------------------|--------------|-------------------|--------------|---------------|--------------------------|--------------|-------------------|--------------|----------------|--------------------------|--------------|-------------------|
| | Gross Output | of which: | | | | Gross Output | of which: | | | | Gross Output | of which: | | |
| | | Intermediate Consumption | Value Added | | | | Intermediate Consumption | Value Added | | | | Intermediate Consumption | Value Added | |
| | | | Labour Costs | Operating Surplus | | | | Labour Costs | Operating Surplus | | | | Labour Costs | Operating Surplus |
| TRADITIONAL ECONOMY: | | | | | | | | | | | | | | |
| Forestry | 4.91 | | | 4.91 | | | | | 4.91 | | | 4.91 | | |
| Fishing | 0.15 | | | 0.15 | | | | | 0.15 | | | 0.15 | | |
| Building & Construction | 17.11 | 5.46 | 0.77 | 10.88 | - | - | - | - | 17.11 | 5.46 | 0.77 | 10.88 | | |
| Water Collection | 5.00 | | | 5.00 | | | | | 5.00 | | | 5.00 | | |
| Ownership of Dwellings | 16.94 | 2.83 | | 14.11 | | | | | 16.94 | 2.83 | | 14.11 | | |
| TOTAL | 44.11 | 8.29 | 0.77 | 35.05 | - | - | - | - | 44.11 | 8.29 | 0.77 | 35.05 | | |
| MONETARY ECONOMY: | | | | | | | | | | | | | | |
| Enterprises & Non-Profit Institutions: | | | | | | | | | | | | | | |
| Agriculture | 229.20 | 24.10 | 34.29 | 170.82 | 4.34 | 1.90 | 1.22 | 1.22 | 224.87 | 22.20 | 33.07 | 169.60 | | |
| Forestry | 4.32 | 0.77 | 2.83 | 0.72 | 1.83 | 0.42 | 2.17 | -0.76 | 2.49 | 0.35 | 0.66 | 1.49 | | |
| Fishing | 1.37 | 0.11 | 0.34 | 0.92 | | | | | 1.37 | 0.11 | 0.34 | 0.92 | | |
| Mining & Quarrying | 5.68 | 3.45 | 1.24 | 0.99 | 0.60 | 0.44 | 0.19 | -0.03 | 5.08 | 3.01 | 1.05 | 1.01 | | |
| Manufacturing | 281.21 | 203.26 | 38.49 | 39.45 | 44.78 | 31.78 | 7.76 | 5.23 | 236.43 | 171.48 | 30.73 | 34.22 | | |
| Building & Construction | 101.86 | 66.13 | 28.84 | 6.89 | 29.25 | 15.78 | 11.67 | 1.79 | 72.62 | 50.35 | 17.17 | 5.10 | | |
| Electricity & Water | 14.16 | 5.23 | 2.17 | 6.76 | 14.09 | 5.17 | 2.17 | 6.75 | 0.07 | 0.06 | | 0.01 | | |
| Trade, Restaurants, Hotels | 115.20 | 48.93 | 30.26 | 36.00 | 4.54 | 2.90 | 1.00 | 0.64 | 110.65 | 46.03 | 29.26 | 35.36 | | |
| Transport, Storage, Communications | 102.59 | 62.98 | 27.43 | 12.18 | 75.54 | 50.02 | 18.14 | 7.38 | 27.05 | 12.96 | 9.29 | 4.80 | | |
| Finance, Insurance, Real Estate | 43.52 | 12.11 | 17.08 | 14.33 | 9.48 | 3.13 | 2.68 | 3.67 | 34.04 | 8.98 | 14.40 | 10.66 | | |
| Ownership of Dwellings | 30.01 | 2.79 | | 27.22 | 3.15 | 0.16 | | 3.00 | 26.86 | 2.63 | | 24.23 | | |
| Other Services | 30.85 | 16.16 | 10.11 | 4.57 | 1.77 | 0.87 | 0.72 | 0.17 | 29.08 | 15.29 | 9.39 | 4.40 | | |
| Total | 959.97 | 446.02 | 193.09 | 320.85 | 189.37 | 112.57 | 47.72 | 29.06 | 770.60 | 333.45 | 145.36 | 291.80 | | |
| Private Households: | | | | | | | | | | | | | | |
| Domestic Services | 5.12 | — | 5.12 | - | | - | - | - | 5.12 | — | 5.12 | — | | |
| Producers of Government Services: | | | | | | | | | | | | | | |
| Public Administration | 41.67 | 12.35 | 29.32 | - | 41.67 | 12.35 | 29.32 | | | | | | | |
| Defence | 12.71 | 7.35 | 5.36 | | 12.71 | 7.35 | 5.36 | | | | | - | | |
| Education | 45.50 | 6.26 | 39.24 | | 45.50 | 6.26 | 39.24 | | | | | | | |
| Health | 17.19 | 5.51 | 11.68 | | 17.19 | 5.51 | 11.68 | - | - | - | | | | |
| Agricultural Services | 12.15 | 3.67 | 8.47 | | 12.15 | 3.67 | 8.47 | | | | | | | |
| Other Services | 18.75 | 5.64 | 13.11 | | 18.75 | 5.64 | 13.11 | | | | | | | |
| Total | 147.97 | 40.80 | 107.18 | - | 147.97 | 40.80 | 107.18 | - | - | - | - | - | | |
| TOTAL | 113.06 | 486.82 | 305.39 | 320.85 | 337.34 | 153.37 | 154.90 | 29.06 | 775.73 | 333.45 | 150.48 | 291.80 | | |
| TOTAL ECONOMY | 157.17 | 495.11 | 306.16 | 355.90 | 337.34 | 153.37 | 154.90 | 29.06 | 819.84 | 341.74 | 151.25 | 326.85 | | |

Note: Gross output is shown at approximate basic prices (that is, after the deduction of indirect taxes, less subsidies, from the total of output); and value added at factor cost. Operating surplus includes consumption of fixed capital.

Table 2 VALUE ADDED AT FACTOR COST

(K£ million)

| Activity | LABOUR COSTS | | | | | Total Labour Costs | OPERATING SURPLUS | | | | | Total Operating Surplus | | |
|--|------------------|-------------------|------------------------|-------------------|------------------------------|--------------------|-------------------|-------------------|------------------------|-------------------|------------------------------|-------------------------|--------|--------|
| | Public | | | | Private | | Public | | | | | | | |
| | Kenya Government | Local Authorities | East African Community | Parastatal Bodies | Enterprises, Households, etc | | Kenya Government | Local Authorities | East African Community | Parastatal Bodies | Enterprises, Households, etc | | | |
| | | | | | | | | | | | | | | |
| TRADITIONAL ECONOMY: | | | | | | | | | | | | | | |
| Forestry | | | | | | | | | | | | 4.91 | 4.91 | |
| Fishing | | | | | | | | | | | | 0.15 | 0.15 | |
| Building & Construction | 0.77 | | | | | 0.77 | | | | | | 10.88 | 10.88 | |
| Water Collection | | | | | | | | | | | | 5.00 | 5.00 | |
| Ownership of Dwellings | | | | | | | | | | | | 14.11 | 14.11 | |
| TOTAL | - | - | - | - | 0.77 | 0.77 | - | - | - | - | 35.05 | 35.05 | | |
| MNETARY ECONOMY: | | | | | | | | | | | | | | |
| Enterprises & Non-Profit Institutions: | | | | | | | | | | | | | | |
| Agriculture | | | | | | | | | | | | 1.22 | 169.60 | 170.82 |
| Forestry | 2.17 | | | | 33.07 | 34.29 | | | | | 1.22 | 169.60 | 170.82 | |
| Fishing | | | | | 0.66 | 2.83 | -0.76 | | | | | 1.49 | 0.72 | |
| Mining & quarrying | | | | | 0.34 | 0.34 | | | | | | 0.92 | 0.92 | |
| Manufacturing | | | | 0.19 | 1.05 | 1.24 | | | | | -0.03 | 1.01 | 0.99 | |
| Building & Construction | 0.47 | | 5.05 | 2.23 | 30.73 | 38.49 | -0.04 | | 1.46 | 3.81 | 34.22 | 39.45 | | |
| Electricity & Water | 5.11 | 1.05 | 5.37 | 0.14 | 17.17 | 28.84 | 0.52 | 0.11 | 1.15 | 0.01 | 5.10 | 6.89 | | |
| Trade, Restaurants, Hotels | 0.10 | 0.33 | | 1.74 | | 2.17 | 0.33 | 1.16 | | 5.26 | 0.01 | 6.76 | | |
| Transport, Storage, Communications | | | | 1.00 | 29.26 | 30.26 | | | | 0.64 | 35.36 | 36.00 | | |
| Finance, Insurance, Real Estate | 0.58 | | 17.16 | | 9.29 | 27.43 | 0.70 | | 5.98 | 0.71 | 4.80 | 12.18 | | |
| Ownership of Dwellings | | | | 2.68 | 14.40 | 17.08 | | | | 3.67 | 10.66 | 14.33 | | |
| Other Services | | | | | | | 0.51 | 2.04 | 0.44 | | 24.23 | 27.22 | | |
| | | | | 0.72 | 9.39 | 10.11 | | | | 0.17 | 4.40 | 4.57 | | |
| Total | 8.43 | 1.38 | 27.58 | 10.31 | 145.36 | 193.09 | 1.26 | 3.31 | 9.03 | 15.46 | 291.80 | 320.85 | | |
| Private Households: | | | | | | | | | | | | | | |
| Domestic Services | | - | - | - | 5.12 | 5.12 | - | - | - | - | - | - | | |
| Producers of Government Services: | | | | | | | | | | | | | | |
| Public Administration | 24.50 | 2.50 | 2.32 | | | 29.33 | | | - | - | - | - | | |
| Defence | 5.36 | | | | | 5.36 | - | - | | | - | - | | |
| Education | 35.19 | 2.01 | 0.09 | 1.95 | - | 39.24 | | | | | | | | |
| Health | 10.64 | 0.96 | 0.08 | | | 11.68 | | | | | | | | |
| Agricultural Services | 7.64 | 0.18 | 0.54 | 0.11 | | 8.47 | | | | | | | | |
| Other Services | 8.98 | 3.34 | 0.79 | | | 13.11 | | | | | | | | |
| Total | 92.32 | 8.99 | 3.82 | 2.06 | - | 107.18 | - | - | - | - | - | - | | |
| TOTAL | 100.75 | 10.37 | 31.40 | 12.37 | 150.48 | 305.39 | 1.26 | 3.31 | 9.03 | 15.46 | 291.80 | 320.85 | | |
| TOTAL ECONOMY | 100.75 | 10.37 | 31.40 | 12.37 | 151.25 | 306.16 | 1.26 | 3.31 | 9.03 | 15.46 | 326.85 | 355.90 | | |

Note: Operating surplus includes consumption of fixed capital. Parastatal bodies also includes public companies (that is, those enterprises in which the combined holding of equity capital by Government and parastatal bodies exceeds 50 per cent).

Table 3 GROSS CAPITAL FORMATION AT PURCHASER PRICES

(K£ million)

| Activity | SECTOR | | | | | Total Gross Fixed Capital Formation | TYPE OF ASSET | | | | | | | Change in Stocks |
|--|------------------|-------------------|------------------------|-------------------|------------------------------|-------------------------------------|-----------------------|---------------------------|------------------------------|-----------------------------------|---------------------|-------------------------------|---------------------------------|------------------|
| | Public | | | | Private | | Residential Buildings | Non-Residential Buildings | Other Construction and Works | Land Improvement, Plantation Dev. | Transport Equipment | Machinery and Other Equipment | Breeding Stock and Dairy Cattle | |
| | Kenya Government | Local Authorities | East African Community | Parastatal Bodies | Enterprises, Households, etc | | | | | | | | | |
| TRADITIONAL ECONOMY: | | | | | | | | | | | | | | |
| Forestry | | | | | | | | | | | | | | |
| Fishing | | | | | | | | | | | | | | |
| Building & Construction | | | | | | | | | | | | | | |
| Water Collection | | | | | | | | | | | | | | |
| Ownership of Dwellings | | | | | 11.55 | 11.55 | 11.55 | | - | - | - | - | - | - |
| TOTAL | - | - | - | - | 11.55 | 11.55 | 11.55 | - | - | - | - | - | - | - |
| MONETARY ECONOMY: | | | | | | | | | | | | | | |
| Enterprises & Non-Profit Institutions: | | | | | | | | | | | | | | |
| Agriculture | 0.26 | | | 0.51 | 14.10 | 14.61 | | 0.88 | 1.92 | 2.70 | 1.57 | 4.84 | 2.71 | |
| Forestry | | | | | | 0.26 | | 0.06 | 0.07 | | 0.10 | 0.03 | | |
| Fishing | | | | | | | | | | | | | | |
| Mining & Quarrying | | | | 0.81 | 0.89 | 1.70 | | 0.05 | 0.27 | | 0.33 | 1.05 | | |
| Manufacturing | 0.11 | | | 0.80 | 27.28 | 28.19 | | 2.58 | 1.78 | | 3.20 | 20.63 | | |
| Building & Construction | 1.84 | | | | 6.66 | 8.50 | | 0.05 | 7.05 | | 0.17 | 1.23 | | |
| Electricity & Water | 1.33 | 1.76 | | 5.42 | | 8.51 | | 0.50 | 1.22 | | 0.90 | 5.88 | | |
| Trade, Restaurants, Hotels | | | | 0.12 | 8.06 | 8.18 | | 1.55 | 0.18 | | 1.83 | 4.62 | | |
| Transport, Storage, Communications | 1.76 | | 9.36 | | 11.35 | 22.47 | | 1.17 | 6.58 | | 10.54 | 4.19 | | |
| Finance, Insurance, Real Estate | | | | 1.14 | 0.97 | 2.12 | | 1.08 | | | 0.05 | 0.98 | | |
| Ownership of Dwellings | 2.63 | 2.13 | 0.37 | 0.29 | 13.80 | 19.22 | 18.65 | | | | | 0.57 | | |
| Other Services | | | | 0.12 | 7.49 | 7.60 | | 4.04 | 0.08 | | 0.19 | 3.29 | | |
| Total | 7.94 | 3.89 | 9.73 | 9.20 | 90.61 | 121.37 | 18.65 | 11.96 | 19.15 | 2.70 | 18.88 | 47.32 | 2.71 | -5.55 |
| Private Households: | | | | | | | | | | | | | | |
| Domestic Services | | - | - | - | - | - | - | | | - | | - | | - |
| Producers of Government Services: | | | | | | | | | | | | | | |
| Public Administration | 3.99 | 0.64 | 0.22 | | | 4.84 | | 3.88 | 0.10 | | 0.51 | 0.36 | | |
| Defence | | | | | - | | | | | | | | | - |
| Education | 1.83 | 0.64 | 0.02 | 1.10 | | 3.59 | - | 1.83 | 0.42 | - | 0.09 | 1.25 | | |
| Health | 2.30 | 0.63 | | | | 2.94 | | 2.29 | 0.28 | | 0.09 | 0.28 | - | |
| Agricultural Services | 0.96 | | 0.04 | 0.09 | | 1.09 | | 0.33 | 0.27 | | 0.23 | 0.25 | | |
| Other Services | 19.46 | 1.02 | 0.16 | | | 20.65 | | 0.62 | 18.41 | | 0.28 | 1.34 | | |
| Total | 28.54 | 2.93 | 0.44 | 1.19 | - | 33.10 | - | 8.95 | 19.49 | - | 1.19 | 3.47 | - | - |
| TOTAL | 36.48 | 6.82 | 10.17 | 10.39 | 90.61 | 154.47 | 18.65 | 20.91 | 38.64 | 2.70 | 20.06 | 50.79 | 2.71 | -5.55 |
| TOTAL ECONOMY | 36.48 | 6.82 | 10.17 | 10.39 | 102.16 | 166.02 | 30.20 | 20.91 | 38.64 | 2.70 | 20.06 | 50.79 | 2.71 | -5.55 |

.. not specified.

Note: Parastatal bodies also includes public companies (that is, those enterprises in which the combined holding of equity capital by the Government and parastatal bodies exceeds 50 per cent).

Table 4 RECONCILIATION BETWEEN THE BALANCE OF PAYMENTS AGGREGATES AND THE AGGREGATES USED IN OTHER ACCOUNTS

(K£million)

| Balance of Payments Aggregates | Aggregates Used in Other Accounts | | | | | | | | | | | |
|--|-----------------------------------|---------------|-------------------|-------------------|---------|--------------|-------------------------------|---------------|-------------------|-------------------|-----------|---------------|
| | Debits | | | | | | | | | Credits | | |
| | Imports of Goods and Services | Factor Income | Current Transfers | Capital Transfers | Lending | Total Debits | Exports of Goods and Services | Factor Income | Current Transfers | Capital Transfers | Borrowing | Total Credits |
| CURRENT ACCOUNT: | | | | | | | | | | | | |
| Merchandise Transactions | 383.9 | | | | | 383.9 | 226.1 | | | | | 226.1 |
| Non-Monetary Gold Movements | 0.9 | | | | | 0.9 | | | | - | | |
| Freight and Insurance | 1.0 | | | - | - | 1.0 | 19.5 | | | | | 19.5 |
| Other Transportation | 22.7 | | | | | 22.7 | 67.3 | | | | | 67.3 |
| Foreign Travel | 13.1 | | | | | 13.1 | 27.0 | | | | | 27.0 |
| International investment Income | | 49.8 | | | | 49.8 | | 13.7 | | | - | 13.7 |
| Government Transactions nes | 2.7 | 8.0 | | | | 10.7 | 5.9 | 1.9 | | | | 7.8 |
| Other Services and Labour Income | 9.5 | 0.1 | | | | 9.6 | 11.4 | | | | | 11.4 |
| Private Transfers | | | 9.0 | | | 9.0 | | | 9.8 | | | 9.8 |
| Government Transfers | | | 8.3 | | | 8.3 | | | 14.4 | | | 14.4 |
| TOTAL CURRENT ACCOUNT | 433.8 | 57.9 | 17.3 | - | - | 509.0 | 357.2 | 15.6 | 24.2 | - | - | 397.0 |
| CAPITAL ACCOUNT: | | | | | | | | | | | | |
| Capital Movements: | | | | | | | | | | | | |
| Private Long-Term | | | | | -0.3 | -0.3 | | - | | | 41.3 | 41.3 |
| Government Long-Term | - | | | | -0.4 | -0.4 | | | - | 4.3 | 17.1 | 21.4 |
| Government Corporations | | | | | 3.7 | 3.7 | | | | | 11.3 | 11.3 |
| Short Term: | | | | | | | | | | | | |
| - Government | | - | - | - | | | - | | | | | |
| - Government Corporations | | | | | 2.1 | 2.1 | | | | | 2.8 | 2.8 |
| - Deposit Banks | | | | | 3.6 | 3.6 | | | | | 7.3 | 7.3 |
| - Private | | | | | 0.7 | 0.7 | | | | | 11.1 | 11.1 |
| Total | - | - | - | - | 9.4 | 9.4 | - | - | - | 4.3 | 90.9 | 95.2 |
| Central Monetary Authorities: | | | | | | | | | | | | |
| Transactions with IMF: | | | | | | | | | | | | |
| - SDR's: Change in Holdings | | | - | - | -6.3 | -6.3 | | | | | | |
| " : Counterpart Liability | | | | | | | | | | | | |
| - Change in Reserve Position | | | | | 1.0 | 1.0 | | - | | - | 20.1 | 20.1 |
| Other Changes in Foreign Assets and Liabilities: | | | | | | | | | | | | |
| - Central Bank of Kenya | - | | | | -0.4 | -0.4 | | | - | | 0.2 | 0.2 |
| - Kenya Government | | | | | -0.1 | -0.1 | | | | | | |
| - Valuation Changes | | | | | | | | | | | 4.3 | 4.3 |
| Total | - | - | - | - | -5.8 | -5.8 | - | - | - | - | 24.6 | 24.6 |
| TOTAL CAPITAL ACCOUNT | - | - | - | - | 3.6 | 3.6 | - | - | - | 4.3 | 115.5 | 119.8 |
| Errors and Omissions | - | - | - | - | 4.2 | 4.2 | - | - | - | - | - | - |

Table 5 USE OF RESOURCES

| <u>Aggregate</u> | <u>K£ million</u> |
|---|-------------------|
| VALUE ADDED AT FACTOR COST: | |
| Traditional Economy | 35.82 |
| Monetary Economy: | |
| Private Sector | 442.28 |
| Public Sector | <u>183.96</u> |
| GROSS DOMESTIC PRODUCT AT FACTOR COST | <u>662.06</u> |
| plus Indirect Taxes | 65.06 |
| less Subsidies | <u>1.30</u> |
| GROSS DOMESTIC PRODUCT AT MARKET PRICES | <u>725.82</u> |
| plus Imports of Goods and Services | 433.80 |
| less Exports of goods and Services | <u>357.20</u> |
| TOTAL RESOURCES AVAILABLE FOR DOMESTIC INVESTMENT AND CONSUMPTION | <u>802.42</u> |
| Gross Fixed Capital Formation | 166.02 |
| Change in Stocks | <u>-5.55</u> |
| GROSS CAPITAL FORMATION | <u>160.47</u> |
| Public Consumption | 128.67 |
| Private Consumption | <u>513.28</u> |
| TOTAL FINAL CONSUMPTION | <u>641.95</u> |

Table 6 GROSS NATIONAL PRODUCT

| <u>Aggregate</u> | <u>K million</u> |
|---|------------------|
| FACTOR INCOMES: | |
| Traditional Economy | 35.82 |
| Monetary Economy: | |
| Remuneration of Employees | 305.39 |
| Rental Surplus | 27.22 |
| Other Operating Surplus | <u>293.63</u> |
| GROSS DOMESTIC PRODUCT AT FACTOR COST | <u>662.06</u> |
| plus Indirect Taxes | 65.06 |
| less Subsidies | <u>1.30</u> |
| GROSS DOMESTIC PRODUCT AT MARKET PRICES | <u>725.82</u> |
| plus Factor Income From Abroad | 15.60 |
| less Factor Income Paid Abroad | <u>57.90</u> |
| GROSS NATIONAL PRODUCT | <u>683.52</u> |

Note: Both rental surplus and other operating surplus include consumption of fixed capital.

Table 7 INVESTMENT ACCOUNT

| <u>Aggregate</u> | <u>K£ million</u> |
|--|-------------------|
| GROSS CAPITAL FORMATION: | |
| Gross Fixed Capital Formation | 166.02 |
| Change in Stocks | -5.55 |
| TOTAL | <u>160.47</u> |
| FINANCED BY: | |
| Borrowing from Rest of World | 115.50 |
| Lending to Rest of World | -7.80 |
| Net Borrowing from Rest of World | <u>107.70</u> |
| Capital Transfers from Rest of World | 4.30 |
| Capital Transfers to Rest of world | |
| Net Capital Transfers from Rest of World | <u>4.30</u> |
| Domestic Saving | <u>48.47</u> |

Note: Domestic saving includes consumption of fixed capital.

Appendix 3

TABLES TO BE INCLUDED IN NATIONAL ACCOUNTS PUBLICATION, 1972-1975

SPECIAL TOPICS

Urban - Rural Distribution of Gross Domestic Product, 1974.
Supply and Disposition of Commodities, 1975.
Private Consumption, 1975.

PART I: NATIONAL PRODUCT

1. Gross National Product and Disposable Income, 1972-1975: at Current Prices.
2. Gross Domestic Product at Factor Cost by Industry of Origin, 1972-1975: at Current Prices and Constant (1972) Prices.
3. Contribution of the Public Sector to Gross Domestic Product, 1974 and 1975: at Current Prices.

PART II: (FACTOR INCOMES) PRODUCTION ACCOUNTS

4. Production Accounts, 1972-1975: at Current Prices.
5. Public Sector Production Accounts, 1972-1975: at Current Prices.

PART III: CONSUMPTION, SAVING AND CAPITAL FORMATION

6. Government Final Consumption Expenditure by Cost Composition and by Activity, 1972-1975: at Current Prices.
- 7.1 Capital Formation by Type of Asset, 1972-1975: at Current Prices.
- 7.2 Capital Formation by Type of Asset, 1972-1975: at Constant (1972) Prices.
- 8.1 Capital Formation by Industry of Use, 1972-1975: at Current Prices.
- 8.2 Capital Formation by Industry of Use, 1972-1975: at Constant (1972) Prices.
- 9.1 Capital Formation by Type of Asset and Industry of Use, 1974: at Current Prices.
- 9.2 Capital Formation by Type of Asset and Industry of Use, 1975: at Current Prices.

- 9.3 Capital Formation by Type of Asset and Industry of Use, 1974: at Constant (1972) Prices.
- 9.4 Capital Formation by Type of Asset and Industry of Use, 1975: at Constant (1972) Prices.
- 10. Public Sector Capital Formation by Industry of Use, 1974 and 1975: at Current Prices.
- 11. Financing of Gross Capital Formation, 1972-1975: at Current Prices.

PART IV: PUBLIC SECTOR TRANSACTIONS

Central Government:

- 12. Outturn of Revenue and Expenditure, 1971/72 - 1975/76.
- 13.1 Economic Analysis of Current Revenue, 1971/72 - 1974/75
- 13.2 Economic Analysis of Capital Revenue, 1971/72 - 1974/75.
- 14.1 Economic Analysis of Current Expenditure, 1971/72 - 1974/75.
- 14.2 Economic Analysis of Capital Expenditure, 1971/72 - 1974/75.
- 15. Functional Classification of Current and Capital Expenditure, 1971/72 - 1976/77.
- 16. Economic/Functional Analysis of Expenditure, 1974/75.
- 17.1 Production Account, 1973/74.
- 17.2 Income and Outlay Account, 1973/74.
- 17.3 Capital Finance Account, 1973/74.
- 18.1 Production Account, 1974/75.
- 18.2 Income and Outlay Account, 1974/75.
- 18.3 Capital Finance Account, 1974/75.
- 19.1 Public Debt, 1972-1975.
- 19.2 Analysis of Public Funded Debt at Book Value by Holders, 1972-1975.
- 19.3 Sources of Unfunded Debt, 1972-1975.
- 20.1 Debt Service Charges, 1972-1975.
- 20.2 Debt Service Charges on External Debt Related to Exports of Goods and Services, 1972-1975.
- 20.3 Profile on Debt Service Charges, 1970-1990.
- 20.4 Grant Element in the Public Debt, 1972-1975.

Municipal Councils:

- 21. Economic Analysis of Revenue, 1972-1975.
- 22. Economic Analysis of Expenditure, 1972-1975.
- 23. Functional Classification of Expenditure, 1972-1975.
- 24. Economic/Functional Analysis of Expenditure, 1975.
- 25. Expenditure on Main Services by Municipal Council, 1972-1975.

County Councils:

26. Economic Analysis of Revenue, 1972-1975.
27. Economic Analysis of Expenditure, 1972-1975.
28. Functional Classification of Expenditure, 1972-1975.
29. Economic/Functional Analysis of Expenditure, 1975.
30. Expenditure on Main Services by Province, 1972-1975.

East African Community General Fund Services:

31. Economic Analysis of Revenue, 1971/72 - 1974/75.
32. Economic Analysis of Expenditure, 1971/72 - 1974/75.
33. Functional Classification of Expenditure, 1971/72 - 1974/75.
34. Economic/Functional Analysis of Expenditure, 1974/75.

PART V: DISAGGREGATED TABLES

35. Value Added from Agriculture, 1972-1974.
36. Value Added from Manufacturing, 1972-1974.
37. Value Added from Wholesale and Retail Trade, Hotel and Restaurants, 1972-1974.
38. Value Added from Transport, Storage and Communications, 1972-1974.
39. Value Added from Finance, Insurance and Real Estate, 1972-1974.

PART VI: CONSOLIDATED ACCOUNTS OF THE NATION

- 40.1 Use of Resources, 1972-1975: at Current Prices.
- 40.2 Use of Resources, 1972-1975: at Constant (1972) Prices.
41. Balance of Payments, 1972-1975.
42. Schematic Outline of some Key Accounts, 1975: at Current Prices.

Appendix 4

INDUSTRIAL CLASSIFICATION OF ECONOMIC ACTIVITIES

1. A register of firms in the modern economy has been available in the Central Bureau of Statistics and its predecessor organizations since the late nineteen forties. Until 1967, the register was compiled in the form of a card index showing the name, address, reference code, economic activity, location and legal status of each firm. There were about 15,000 entries in the register at that time.
2. The index had been originally established when a formal statistical organisation was being created in Kenya. The primary objective behind its creation was to undertake surveys of employment in the modern sector. However, soon after it was set up, it became the basis of a variety of postal enquiries. As the level of statistical activity expanded, the limitations of the card index became apparent. As the number of establishments began to grow rapidly, it became more and more difficult to ensure that errors did not creep into the index. The demands of statistical survey activity also called for more refined and rigorous classifications, particularly of economic activity.
3. In 1967, it was decided to computerize the register. At the same time, another important decision was taken; to make the establishment rather than the firm the unit of the register. This became necessary not only to take into account the growing number of branches of particular firms but also because of the diverse nature of the economic activities of some of the big firms. The register was therefore revised to incorporate establishments; an establishment being defined as "a specific location in which a clearly defined economic activity is undertaken" in line with standard international practice. The new computerized index became operational in 1968.
4. In 1972, the need for further fundamental revisions became apparent again. There were several reasons for this, one of which was the need to improve upon the economic activity classifications then being used. Hitherto, the basis of the

economic activity classifications had been the 3-digit system of the United Nations(1). However, in 1968 the United Nations introduced a new 4-digit system(2). Since this 4-digit system provides a more useful breakdown of economic activity, it was decided to adopt it. At the same time, substantial changes were made also to the location codes and the status codes, thereby making the overall identification and classification system more flexible(3).

5. There are now 45,000 establishments in the file which is defined to cover all establishments in urban areas operating organised businesses, all large scale farms and all large non-agricultural establishments, such as sawmills, situated outside urban areas. During the last few years the register has grown by a net addition of about 3,000 establishments annually. An updated version of the register is produced every quarter. The register provides the basic frame for all postal enquiries undertaken by the Central Bureau of Statistics(4).

6. The economic activity classification adopted in 1972 is, in all but a few cases, identical to the 4-digit system of the United Nations. The exceptions reflect unique local conditions and occur only at the group level. The classification system is laid out in the table which follows. This table does not show the classifications which have been introduced since 1974. These are:

- the replacement of group number 1110, agricultural and livestock production in large farms, by seven groups, namely:
 - 1111 Coffee plantations.
 - 1112 Tea plantations.
 - 1113 Sugar plantations.
 - 1114 Sisal plantations.
 - 1115 Mixed fanning.
 - 1116 Ranches.
 - 1117 Other agricultural activities nec.
- the recognising as distinct economic activities the following two groups:
 - 2903 Salt mining.
 - 7115 Pipeline transport.

An article describing these and other coding changes is to be published shortly in the Kenya Statistical Digest.

(1) Footnote 6 of Appendix 1 refers.

(2) Footnote 6 of Chapter 2 refers.

(3) For further details, see "Register of Establishments in the Central Bureau of Statistics" in the Kenya Statistical Digest (Vol. XI, No. 3) of September 1973.

(4) Examples of such enquiries are to be found in Appendix 7.

INDUSTRIAL CLASSIFICATION OF ECONOMIC ACTIVITIES

| Major Division | Division | Major Group | ISIC Group | Kenya Group | Description of Activity |
|--|--|-----------------------------|------------|-------------|---|
| 1-Agriculture, Hunting, Forestry and Fishing | 11-Agriculture and Hunting | 111-Agriculture | 1110 | 1110 | Agriculture and livestock production in large farms. |
| | | 112- | 1110 | 1119 | Processing co-operatives of small farms. |
| | 12-Forestry and Logging | 113- | 1120 | 1120 | Agricultural services. |
| | | 121-Forestry | 1130 | 1130 | Hunting, trapping and game propagation. |
| | | 122- | 1210 | 1211 | Forestry. |
| | | 122- | 1210 | 1212 | Charcoal burning. |
| | 13- | 130-Fishing | 1220 | 1220 | Logging. |
| | | | 1301 | 1301 | Ocean and coastal fishing. |
| | | | 1302 | 1302 | Inland water fishing. |
| | | | | | |
| 2-Mining and Quarrying | 22- 23- 29- | 220- | 2200 | 221 | Crude petroleum and natural gas. |
| | | 230-Metal ore mining | 2302 | 2302 | Non-ferrous ore mining |
| | | 290-Other mining | 2901 | 2901 | Stone quarrying, clay and sand pits. |
| | | | 2902 | 2902 | Chemical and fertilizer mineral mining. |
| | | | 2909 | 2909 | Mining and quarrying nec. |
| 3-Manufacturing | 31-Manufacture of Food, Beverages and Tobacco | 311-Food manufacturing | 3111 | 3111 | Slaughtering, preparing and preserving of meat. |
| | | | 3112 | 3112 | Manufacture of dairy products. |
| | | | 3113 | 3113 | Canning and preserving of fruits and vegetables. |
| | | | 3114 | 3114 | Canning, preserving and processing of fish. |
| | | | 3115 | 3115 | Manufacture of vegetables and animal oils and fats. |
| | | | 3116 | 3116 | Grain mill products. |
| | | | 3117 | 3117 | Manufacture of bakery products. |
| | | | 3118 | 3118 | Sugar factories and refineries. |
| | | | 3119 | 3119 | Manufacture of cocoa, chocolate and sugar confectioneries. |
| | | | 3121 | 3121 | Manufacture of food products nec. |
| | | | 3122 | 3122 | Manufacture of prepared animal feeds. |
| | | | 3131 | 3131 | Distilling, rectifying and blending spirits. |
| | | | 3133 | 3133 | Malt liquors and malt. |
| | | | 3134 | 3134 | Soft drinks and carbonated waters industries. |
| | 32-Textile, Wearing Apparel and Leather Industries | 321-Manufacture of textiles | 3140 | 3140 | Tobacco manufactures. |
| | | | 3211 | 3211 | Spinning, weaving and finishing textiles. |
| | | | 3212 | 3212 | Manufacture of made-up textiles goods except wearing apparel. |
| | | | 3213 | 3213 | Knitting mills. |
| | | | 3215 | 3215 | Cordage, rope and twine industries. |
| | | | 3211 | 3216 | Cotton ginneries. |
| | | | 3219 | 3219 | Manufacture of textiles nec. |
| | | | 3220 | 3220 | Manufacture of wearing apparel, except footwear. |

INDUSTRIAL CLASSIFICATION OF ECONOMIC ACTIVITIES (Contd.)

| Major Division | Division | Major Group | ISIC Group | Kenya Group | Description of Activity |
|----------------|---|--|--|--|--|
| | | 323-Manufacture of leather and leather products, except footwear and wearing apparel | 3231 3233 | 3231 3233 | Tanneries and leather finishing. Manufacture of products of leather, except footwear and wearing apparel. |
| | 33-Manufacture of Wood and Wood Products, including Furniture | 324- 331-Manufacture of wood and cork products, except furniture 332- | 3240 3311 3312 3319 3320 | 3240 3311 3312 3319 3320 | Manufacture of footwear, except plastic footwear. Sawmills, planing and other wood mills. Manufacture of wooden and cane containers. Manufacture of wood and cork products nec. Manufacture of furniture and fixtures, except primarily of metal or plastic. |
| | 34-Manufacture of Paper and Paper Products, Printing and Publishing | 341-Manufacture of paper and paper products 342- | 3411 3419 3420 | 3411 3419 3420 | Manufacture of pulp, paper and paper-board. Manufacture of pulp, paper and paper-board articles nec. Printing, publishing and allied industries. |
| | 35-Manufacture of Chemicals, and of Chemical, Petroleum, Rubber and Plastic Products. | 351-Manufacture of industrial chemicals 352-Manufacture of other chemical products | 3511 3512 3513 3512 3521 3522 3523 | 3511 3512 3513 3514 3521 3522 3523 | Manufacture of basic industrial chemicals, except fertilizers. Pyrethrum extraction. Wattle bark processing. Manufacture of fertilizers and pesticides. Manufacture of paints, varnishes and lacquers. Manufacture of drugs and medicines. Manufacture of soap and cleansing preparations, perfumes, cosmetics and other toilet preparations. Manufacture of chemical products nec. |
| | 36-Manufacture of Non-Metallic Mineral Products, except Products of Petroleum | 353- 355- 356- 361- 362- 369-Manufacture of other non-metallic mineral products | 3530 3550 3560 3610 3620 3691 3692 3699 | 3530 3550 3560 3610 3620 3691 3692 3699 | Petroleum refineries. Manufacture of rubber products. Manufacture of plastic products. Manufacture of pottery, china and earthenware. Manufacture of glass and glass products. Manufacture of structural clay products. Manufacture of cement, lime and plaster. Manufacture of non-metallic mineral products nec. |
| | 37- 38-Manufacture of Fabricated Metal Products, Machinery and Equipment | 370- 381-Manufacture of fabricated metal products, except machinery and equipment 382- 383- | 3700 3811 3812 3813 3819 3820 3830 | 3700 3811 3812 3813 3819 3820 3830 | Basic metal industries. Manufacture of cutlery, hand tools and general hardware. Manufacture of furniture and fixtures primarily of metal. Manufacture of structural metal products. Manufacture of fabricated metal products, except machinery and equipment nec. Manufacture of machinery, except electrical. Manufacture of electrical machinery and appliances |

| Major Division | Division | Major Group | ISIC Group | Kenya Group | Description of Activity |
|--|------------|--|--|--|---|
| | | 384-Manufacture of transport equipment | 3841 3842 3843 3844 3845 | 3841 3842 3843 3844 3845 | Ship building and repairing. Manufacture of railroad equipment. Manufacture and assembly of motor vehicles. Manufacture and assembly of motorcycles and bicycles. Manufacture and repairs of aircraft. |
| | | 385- | 3850 | 3850 | Manufacture of professional and scientific equipment, photographic and optical goods. |
| | 39- | 390- | 3900 | 3900 | Other manufacturing industries. |
| 4-Electricity and Water | 41- 42- | 410- 420- | 4101 4200 | 4101 4200 | Electric light and power. Water works and supply. |
| 5-Construction | 51- | 510-Special trade contractors | 5000 5000 5000 5000 5000 5000 | 5 5102 5103 5104 5105 5201 5202 | Structural steel erectors. Painters, roof-tilers and minor repairs. Borehole drilling. Construction of building. All other construction. |
| | 52- | 520-General trade contractors | 5000 5000 | 5201 5202 | |
| 6-Wholesale and Retail Trade, Restaurants and Hotels | 60- | 600-Joint wholesale and retail trade | 6100 6100 6100 6100 6100 6100 6100 6100 6100 6100 6100 | 6001 6002 6003 6110 6111 6112 6113 6114 6115 6116 6117 | Motor vehicles. Non-electric machinery and appliances. Electrical machinery and appliances. Food, drink and tobacco. Agricultural produce. Oil and petrol. Textiles, soft furnishings, clothing and shoes. Building materials, hardware and timber. Domestic hardware. Photographic and pharmaceutical goods. Engineering products, scrap, industrial and agricultural chemicals, seeds, etc. |
| | 61- | | | | General wholesale. |
| | | 610-Wholesale trade | 6100 6100 6200 6200 6200 6200 6200 6200 6200 6200 6200 | 6118 6119 6211 6212 6212 6213 6214 6215 6216 6217 6218 | Wholesale nec. Food, drink and tobacco. Butcheries. Oil and petrol. Textiles, soft furnishings, clothing and shoes. Building materials, timber and domestic hardware. Photographic and pharmaceutical goods. General retail. Retail nec. |
| | 62- | | | | |
| | | 620-Retail trade | 6200 | 6218 | |

INDUSTRIAL CLASSIFICATION OF ECONOMIC ACTIVITIES (Contd.)

| Major Division | Division | Major Group | ISIC Group | Kenya Group | Description of Activity |
|---|--------------------------------------|---|--------------|--------------|--|
| 7-Transport, Storage and Communication | 63-Restaurants and Hotels | 631-632- | 6310 6320 | 6310 6320 | Restaurants, cafes and other eating and drinking places. Hotels, rooming houses, camps and other lodging places. |
| | 71-Transport and Storage | 711-Land transport | 7111 | 7110 | East African Railways Central Administration. |
| | | | 7111 | 7111 | Railway transport. |
| | | | 7112 | 7112 | Urban, sub-urban and inter-urban highway passenger transport. |
| | | | 7113 | 7113 | Other passenger land transport. |
| | | | 7114 | 7114 | Freight transport by road. |
| | | 712-Water transport | 7116 | 7116 | Supporting services to land transport. |
| | | | 7121 | 7121 | Ocean and coastal water transport. |
| | | | 7122 | 7122 | Inland water transport. |
| | | 713-Air transport | 7123 | 7123 | Supporting services to water transport. |
| | | | 7131 | 7131 | Air transport carriers, including aircraft rental. |
| | 72- | 719-Services allied to transport | 7132 | 7132 | Supporting services to air transport. |
| | | | 7191 | 7190 | Booking and travel agencies. |
| | | 720-Communication | 7191 | 7191 | Services incidental to transport nec. |
| | | | 7192 | 7192 | Storage and warehousing. |
| | | | 7200 | 7200 | Communication. |
| 8-Financing, Insurance, Real Estate and Business Services | 81- | 810-Financial Institutions | 7201 | 7201 | East African Posts and Telecommunications administrative services. |
| | | | 8101 | 8101 | Monetary institutions. |
| | | | 8102 | 8102 | Other financial institutions, except holding companies. |
| | 82- | 820-Insurance | 8103 | 8103 | Financial services. |
| | | | 8102 | 8104 | Holding companies. |
| | | | 8200 | 8201 | Insurance companies. |
| | 83-Real Estate and Business Services | 831-Real estate | 8200 | 8202 | Other insurance. |
| | | | 8310 | 8311 | Property companies. |
| | | 832-Business services, except machinery and equipment rentals and leasing | 8310 | 8312 | House and estate agents. |
| | | | 8321 | 8321 | Legal services. |
| | | | 8322 | 8322 | Accounting, auditing and book-keeping services. |
| | | | 8323 | 8323 | Data processing and tabulating services. |
| | | | 8324 | 8324 | Engineering, architectural and technical services. |
| | | | 8325 | 8325 | Advertising services. |
| | | 833- | 8329 | 8329 | Business services, except machinery and equipment rental and leasing, nec. |
| | | | 8330 | 8330 | Machinery and equipment rental and leasing. |

INDUSTRIAL CLASSIFICATION OF ECONOMIC ACTIVITIES (Contd.)

| Major Division | Division | Major Group | ISIC Group | Kenya Group | Description of Activity |
|---|--|---|------------|-------------|--|
| 9-Community, Social and Personal Services | 91- | 910-Public administration and defence | 9100 | 9101 | Government services. |
| | | | 9100 | 9102 | Law and order. |
| | 93 Social and Related Community Services | 931-Medical, dental, other health and veterinary services | 9100 | 9103 | Defence. |
| | | | 9100 | 9104 | Other public administration. |
| | | | 9310 | 9310 | Education services. |
| | | | 9320 | 9320 | Research and scientific institutes. |
| | | | 9331 | 9331 | Medical, dental and other health services. |
| | | | 9332 | 9332 | Veterinary services. |
| | | | 9340 | 9340 | Welfare institutions. |
| | | | 9350 | 935k | Business, professional and labour associations. |
| | | | 9391 | 9391 | Religious organizations |
| | | | 9399 | 9399 | Social and related community services nec. |
| | 94- Recreational and Cultural Services | 941- 942- | 9410* | 9410 | Motion picture and other entertainment services. |
| | | | 9420 | 9420 | Libraries, museums, botanical and zoological gardens. and other cultural services nec. |
| | | 949-Amusement and recreational services | 9490 | 9490 | Pleasure boat hire. |
| | | | 9490 | 9491 | Other amusement and recreational services nec. |
| | 95 Personal and Household Services | 951-Repair services nec | 9511 | 9511 | Repair of footwear and other leather goods. |
| | | | 9512 | 9512 | Electrical repair shops. |
| | | | 9513 | 9513 | Repair of motor vehicles and motorcycles. |
| | | | 9514 | 9514 | Watch, clock and jewellery repair. |
| | | | 9519 | 9519 | Other repair shops nec. |
| | | 952- 953- 959-Miscellaneous personal services | 9520 | 9520 | Laundries, laundry services and cleaning and dyeing plants. |
| | | | 9530 | 9530 | Domestic services. |
| | | | 9591 | 9591 | Barber and beauty shops. |
| | | | 9592 | 9592 | Photographic studios, including commercial photography. |
| | | | 9599 | 9593 | Hunting and tourist guide services. |
| | | | 9599 | 9599 | Personal services nec. |
| | 96- | 960- | 9600 | 9600 | International and other extra-territorial bodies. |
| 0- | 00- | 000- | 0000 | 0000 | Activities not adequately defined. |

* Actually 9411 to 9415.

Appendix 5

THE PUBLIC SECTOR

1. The public sector in its entirety consists of those institutions which make up the following tiers:

- Central Government(1).
- Local Authorities.
- East African Community.
- Parastatal Organizations and Public Enterprises.

Institutions in each tier have in the production accounts been classified either as producers of government services or as public enterprises. They have been comprehensively dealt with in various sections of this report: the former in Chapter 15 on the government sector; the latter in those chapters which deal with enterprise activities; and in Appendix 6 which details the treatment of the East African Community in the national accounts of Kenya. In these sections, the different activities of the first three tiers, that is, the Central Government, local authorities, and the East African Community, have been specifically identified.

2. This appendix deals with the parastatal organizations and public enterprises which constitute the fourth tier of the public sector. These are classified into the three categories:

- Parastatal Organizations Engaged in Enterprise Activities.
- Enterprises with Majority Control(2) by Public Sector.
- Statutory Boards with Regulatory and Administrative Functions.

They are detailed respectively in Tables 1, 2 and 3 which follow.

(1) Including National Social Security Fund. See Chapter 15.

(2) For definition see Chapter 2.

Table 1 PARASTATAL ORGANIZATIONS: ENTERPRISE ACTIVITIES

| ISIC Activity(1) | Name of Enterprise |
|---|--|
| 1111 Coffee plantations | University of Nairobi, Agricultural Faculty Field Station Fam. |
| 1113 Sugar plantations | Agricultural Development Corporation, Kimwani National Fam. |
| 1115 Mixed farming | Agricultural Development Corporation. University of Nairobi, Veterinary Faculty Fam. Settlement Fund Trustees. |
| 1116 Ranching | Agricultural Development Corporation. University of Nairobi, Veterinary Faculty Fam. Settlement Fund Trustees. |
| 1117 Other agricultural activities nec | Pyrethrum Marketing Board, Oljoro Orok Demonstration Fam. |
| 1120 Agricultural services | Central Artificial Insemination Station. Coffee Research Foundation. Kenya Sisal Board Inspectorate. Kenya Tea Development Authority. National Irrigation Board. |
| 2909 Mining & quarrying nec | African Diatomite Industries Ltd. |
| 3111 Slaughtering, preparing & preserving of meat | Kenya Meat Commission. |
| 3112 Manufacture of dairy produce | Mariakani Milk Scheme. |
| 3121 Manufacture of food products nec | Githongo Tea Factory Co. Ltd. Ragati Factory Co. Ltd. |
| 3512 Pyrethrum extraction | Pyrethrum Marketing Board. |
| 4200 Water works & supply | Mombasa Pipeline Board. |
| 6111 Wholesale nec | Coffee Marketing Board of Kenya. Maize & Produce Marketing Board. |
| 6118 General wholesale | Kenya National Trading Corporation Ltd. |
| 6320 Hotels, rooming houses, camps & other lodging places | Kenya Tourist Development Corp Tea Hotel. Kitani Safari Lodge. Njiru Country Club. |
| 7115 Pipeline transport | Kenya Pipeline Co. Ltd. |
| 7190 Booking & travel agencies | Kenya National Travel Bureau. |
| 8101 Monetary institutions | Central Bank of Kenya. Co-operative Bank of Kenya Ltd. Industrial Development Bank Ltd. National Bank of Kenya Ltd. |
| 8102 Other financial institutions, except holding companies | Agricultural Finance Corporation. Development Finance Co. (Kenya) Ltd. Mombasa Savings & Finance Co. Ltd. National Housing Corporation. |
| 8103 Financial services | Industrial & Commercial Development Corp. Kenya Tourist Development Corporation. |
| 8201 Insurance companies | Kenya National Assurance Co. Ltd. State Reinsurance Corporation of Kenya. |
| 8311 Property companies | Kenya National Properties. University Halls of Residence Institute. |
| 8324 Engineering, architectural & technical services | National Construction Corporation Ltd. |
| 8329 Business services, except machinery & equipment, rental & leasing, nec | Kenya Tourist Development Corporation, Hotel Management Co. Ltd. |
| 9410 Motion picture & other entertainment services | Kenya Film Corporation Ltd. Kenya National Theatre. |
| 9420 Libraries, museums, botanical & zoological gardens & other cultural services nec | BOMAS of Kenya Ltd. |

(1) The International Standard Industrial Classification (ISIC) of the United Nation; as modified to suit Kenya's needs. See Appendix 4.

Table 2 ENTERPRISES WITH MAJORITY CONTROL BY PUBLIC SECTOR

| ISIC Activity(1) | Name of Enterprise |
|--|---|
| 1113 Sugar plantations | Mumias Sugar Co. Ltd. |
| 1117 Other agricultural activities nec | Kenya Poultry Development Co. Ltd. |
| 2302 Non-ferrous ore mining | Kenya Mining Industries Ltd. Kenya Mining Co. Ltd. |
| 2902 Chemical & fertilizer mineral mining | Flourspar Co. of Kenya Ltd. |
| 3118 Sugar factories & refineries | Mumias Sugar Co. Ltd. |
| 3121 Manufacture of food products nec | Kangaita Tea Factory Co. Ltd. Kapkoros Tea Factory Co. Ltd. Kenya Maruzon Tea Co. Ltd. Kiamokara Tea Factory Co. Ltd. Thumaita Tea Factory Co. Ltd. |
| 3216 Cotton ginneries | Kibos Ginnery Ltd. Mwea Cotton Ginnery Ltd. Nambale Ginnery Ltd. |
| 3220 Manufacture of wearing apparel, except footwear | Mwea Garments Ltd. Somerset Africa Ltd. |
| 3311 Sawmills, planing & other wood mills | Wanachi Sawmills (1974) Ltd. |
| 3530 Petroleum refineries | East African Oil Refineries Ltd. |
| 3813 Manufacture of structural metal products | Kenya Engineering Industry Ltd. |
| 3843 Manufacture & assembly of motor vehicles | Associated Vehicle Assemblers Ltd. General Motors (K) Ltd. |
| 4101 Electric light & power | East African Power & Lighting Co. Ltd. Tana River Development Co. Ltd. |
| 5202 All other construction | International Construction Corporation Ltd. |
| 6110 Food, drink & tobacco | Kenya Wine Agencies Ltd. |
| 6320 Hotels, rooming houses, camps & other lodging places | Marsabit Lodge. Meru Mulika Lodge Ltd. Panafric Hotel Ltd. |
| 7113 Other passenger land transport | African Tours & Hotels Ltd. |
| 7114 Freight transport by road | Kenatco Transport Co. Ltd. |
| 7191 Services incidental to transport nec | Kenya Shipping Agency Ltd. |
| 8101 Monetary institutions | Kenya Commercial Bank Ltd. |
| 8102 Other financial institutions except holding companies | Housing Finance Company of Kenya Ltd. |
| 8103 Financial services | Kenya Industrial Estates Ltd. |
| 8201 Insurance companies | Minet ICDC Ltd. |

(1) The International Standard Industrial Classification (ISIC) of the United Nations as modified to suit Kenya's needs. See Appendix 4.

Table 3 PARASTATAL ORGANIZATIONS: STATUTORY BOARDS WITH REGULATORY AND ADMINISTRATIVE FUNCTIONS(1)

| Sector of Activity | Name of Board |
|----------------------------|---|
| Agriculture | Wheat Board. Central Artificial Insemination Station Board. Horticultural Crops Development Authority. Tea Board. Kenya Dairy Board. Pig Industry Board. Pyrethrum Board. Coffee Board of Kenya. |
| Commerce & Industry | External Trade Authority. Weights & Measures Board. |
| Social Services: Education | University of Nairobi. Kenyatta University College. Egerton College. Teachers Service Commission. Kenya National Library Service. |

(1) Only organizations with full-time employees and separate budgets are listed.

Appendix 6

EAST AFRICAN COMMUNITY

1. The operations of the East African Community make a significant contribution to Kenya's gross domestic product. Moreover, they have a substantial impact on her balance of payments. Consequently, a detailed and comprehensive analysis is needed which, besides measuring this contribution and impact, ensures that the various estimates for the national accounts and the balance of payments are essentially consistent. Outlined in this appendix is the analysis that is undertaken of the activities that occur in Kenya of the East African Community General Fund Services and the East African Community corporations. The corporations referred to are:

- East African Railways Corporation.
- East African Airways Corporation.
- East African Posts and Telecommunications Corporation.
- East African Harbours Corporation.
- Eastern Africa National Shipping Line.
- East African Development Bank.

As explained in Chapter 15, the activities of the East African General Fund Services are covered with those of producers of government services. However, the various activities of the Community corporations are treated as enterprise activities of the public sector and as such they have been dealt with under the relevant activity chapters.

2. The activities of the General Fund Services and of the Community corporations need to be analyzed in a way that will:

- subdivide their operations by type of activity and by partner state;
- measure the value of output, intermediate consumption and value added of each activity that occurs in Kenya;
- provide the information on the current and capital flows generated by these activities needed to compile Kenya's balance of payments.

The general approach is based on the presumption that the activities of any corporation are undertaken by a parent company in the partner state in which the headquarters of the particular corporation happens to be and by branches in the other partner states. It is also assumed that the parent company alone is responsible for the borrowing and repayment of debt, for the receipt and payment of interest, and for the administration of the sinking, pension and depreciation funds of the entire corporation. On these premises, production accounts, an appropriation account, a capital finance account and special fund accounts are prepared for the parent company and for each branch.

3. Tables illustrating such accounts relating to the operations of the East African General Fund Services the East African Railways Corporation, the East African Airways Corporation and the East African Posts and Telecommunications Corporation are included in this appendix. The figures shown in the tables are for a

past year. Furthermore the analysis is in terms of current prices only.

After the value of output, intermediate consumption and value added for any activity of the General Fund Services and the corporations have been estimated, the estimates are included with those of this activity for the country as a whole. The conversion of these current price estimates to constant price estimates has already been explained in the appropriate activity chapter.

4. The sources of information on the operations of the General Fund Services are the annual financial statements and reports prepared by the Community's Auditor-General and Accountant-General. For the Community corporations, the sources are their annual accounts and the national accounts questionnaire which they complete each year.

EAST AFRICAN GENERAL FUND SERVICES

5. The analysis consists of preparing a revenue-expenditure account, a capital finance account, and accounts for the pension, provident and sinking funds maintained by the General Fund Services. The approach is simpler than the one outlined in paragraph 2, since the General Fund Services is a producer of government services and the problem of dividing profits amongst the partner states does not arise. Moreover, as in the case of other producers of government services except the Central Government, no attempt is made to impute depreciation charges.

Revenue-Expenditure Account: Table 1.1

6. Table 1.1 sets out the allocation of revenues and expenditures by partner states. In the allocation of revenue by partner states, problems arise only in the case of reimbursements, item 1.5, and receipts from rents and sundry income, item 1.6. Reimbursements have been allocated to partner states in the same proportions as their contribution to the revenue of the General Fund Services. With rents and sundry income each item is allocated separately. These allocations are

Table 1.1 EAST AFRICAN COMMUNITY GENERAL FUND SERVICES: REVENUE-EXPENDITURE ACCOUNT

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|--------|---------|---------|---------------|------------------|
| Credits | | | | | |
| 1. Contributions 4 receipts: | 304.51 | 134.99 | 65.96 | 88.86 | 14.70 |
| 1.1 From UK Government | 9.01 | | | | 9.01 |
| 1.2 From Rest of World | 1.49 | | | | 1.49 |
| 1.3 From EA Administrations | 4.45 | 2.50 | 1.06 | 0.89 | |
| 1.4 Cost of collection | 68.02 | 32.09 | 14.54 | 21.39 | |
| 1.5 Reimbursements | 14.80 | 6.80 | 3.41 | 4.59 | |
| 1.6 Rents 4 sundry income | 17.65 | (6.51) | (3.41) | (3.53) | (4.20) |
| 1.7 General Fund | 189.09 | 87.09 | 43.54 | 58.46 | |
| 2. Refund of surplus balances | - | - | - | - | - |
| 3. Contra Item 6.2 below | 10.08 | 5.78 | 1.32 | 2.98 | - |
| 4. Total | 314.59 | 140.77 | 67.28 | 91.84 | 14.70 |
| Debits | | | | | |
| 5. Current expenditure on goods 4 services | 68.82 | (38.05) | (8.65) | (19.62) | (2.50) |
| 6. Value added: | 125.08 | 71.67 | 16.33 | 37.08 | - |
| 6.1.1 Personal emoluments) | | | | | |
| 6.1.2 Allowances Including) | | | | | |
| those received in kind) | 115.00 | 65.89 | 15.01 | 34.10 | - |
| 6.2 Employer contribution to pensions | 10.08 | 5.78 | 1.32 | 2.98 | |
| 7. Current transfers: | 2.08 | 0.85 | 0.44 | 0.65 | 0.14 |
| 7.1.1 Interest on bank loan | 0.12 | 0.12 | | | |
| 7.1.2 Interest on loan from Pension Fund | 0.59 | | | 0.59 | |
| 7.1.3 Other interest | 0.07 | (0.03) | (0.02) | (0.02) | |
| 7.2 Education Grant | 1.16 | 0.70 | 0.42 | 0.04 | |
| 7.3 Other | 0.14 | | | | (0.14) |
| 8. Contributions to funds: | 10.08 | | | 10.08 | |
| 8.1 Pension 4 Provident Funds | 10.08 | - | - | 10.08 | - |
| 8.2 Sinking Fund | | | | | |
| 8.3 Other | | | | | |
| 9. Repayment of loans: | 2.22 | 0.36 | - | 0.86 | 1.00 |
| 9.1 Bank loan | 1.36 | 0.36 | | | 1.00 |
| 9.2 Pension loan | 0.30 | | | 0.30 | |
| 9.3 Other | 0.56 | | | 0.56 | |
| 10. Gross capital formation: | 39.81 | (16.52) | (10.63) | (12.66) | - |
| 10.1 Building and construction) | | | | | |
| 10.2 Equipment) | 39.81 | (16.52) | (10.63) | (12.66) | - |
| 10.3 Vehicles) | | | | | |
| 11. Adjustment to re-allocate imports | - | - | - | - | - |
| 12. Balance credited to General Revenue Reserve | 66.50 | - | - | 66.50 | - |
| 13. Total | 314.59 | 127.45 | 36.05 | 147.45 | 3.64 |

Note: Brackets indicate that allocations by country are arbitrarily made.

Table 1.2 EAST AFRICAN COMMUNITY GENERAL FUND SERVICES: CAPITAL FINANCE ACCOUNT

| (Shs. million) | | | | | |
|--|--------|---------|---------|----------|---------------|
| Item | Total | Kenya | Uganda | Tanzania | Rest of World |
| Credits | | | | | |
| 14. Decrease in loans outstanding | -0.65 | -0.06 | -0.03 | -0.56 | — |
| 15. Increase in Treasury Float | - | - | - | - | - |
| 16. Increase in deposit liabilities': | 7.48 | 7.43 | 0.02 | 0.03 | - |
| 16.1 Compensation loan EAC | | | | | |
| 16.2 CD & W Matching Grants Scheme | | | | | |
| 16.3 Overseas Service Aid Scheme | | | | | |
| 16.4 EA Administrations | | | | | - |
| 16.5 EA Customs & Excise | 6.37 | 6.37 | | | |
| 16.6 Sundry deposits | 1.11 | (1.06) | (0.02) | (0.03) | |
| 17. Increase in liability to funds: | 19.29 | - | - | 19.29 | — |
| 17.1 Pension Fund | 19.29 | | | 19.29 | |
| 17.2 Provident Fund | 0.19 | - | - | 0.19 | |
| 17.3 Sinking Fund | 0.11 | | | 0.11 | |
| 17.4 Other | -0.30 | | | -0.30 | |
| 18. Increase in General Revenue, Reserve | 66.50 | 29.04 | 14.94 | 23.78 | -1.26 |
| 19. Total | 92.62 | 36.41 | 14.93 | 42.54 | -1.26 |
| Debits | | | | | |
| 20. Change in existing assets: | -0.65 | -0.06 | -0.03 | -0.56 | — |
| 20.1 East African Community Housing | -0.49 | | | -0.49 | |
| 20.2 Community & Regional HQs | -0.13 | (-0.03) | (-0.03) | (-0.07) | - |
| 20.3 Custom House Mombasa | -0.03 | -0.03 | | | |
| 21. Change in advances: | -1.09 | 1.63 | -1.63 | -1.63 | 0.54 |
| 21.1 Overseas Service Aid Scheme | 0.54 | | | | 0.54 |
| 21.2 EA Administrations | 0.57 | (0.19) | (0.19) | (0.19) | |
| 21.3 EA Customs & Excise | -0.85 | -0.85 | | | |
| 21.4 Personal | 1.38 | (0.46) | (0.46) | (0.46) | |
| 21.5 Air charter | 4.09 | 4.09 | | | |
| 21.6 EA Students Club | 0.05 | (0.03) | (0.01) | (0.01) | |
| 21.7 Sundry advances | -6.87 | (-2.29) | (2.29) | (-2.29) | |
| 22. Increase in loans & investments: | -4.54 | 0.40 | 0.40 | -0.77 | -4.57 |
| 22.1 Special deposits | | | | | |
| 22.2 Pension & Provident Funds | -4.57 | 0.40 | 0.40 | -0.80 | -4.57 |
| 22.3 Sinking Fund | 0.03 | | | 0.03 | |
| 23. Increase in cash & funds: | 98.90 | 79.20 | -1.90 | 14.20 | 7.40 |
| 23.1 Consolidated Fund | 75.05) | | | | |
| 23.2 Other | 23.85) | 79.20 | -1.90 | 14.20 | 7.40 |
| 24. Total | 92.62 | 81.17 | -3.16 | 11.24 | 3.37 |

Note: Brackets indicate that allocations by country are arbitrarily made.

Table 1.3 EAST AFRICAN COMMUNITY GENERAL FUND SERVICES: SPECIAL FUND ACCOUNTS

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|-------|--------|--------|---------------|------------------|
| PENSION FUND | | | | | |
| Credits | | | | | |
| 25. Income on funds assets | 4.68 | 2.15 | 0.33 | 0.52 | 1.68 |
| 26. Interest received from EAC | 1.57 | | | 1.57 | |
| 27. Appreciation of investments | 2.62 | | | 2.62 | |
| 28. Contributions received from EAC | 19.75 | | | 19.75 | |
| 29. Transferred from Provident Fund | 0.09 | | | 0.09 | |
| 30. Total | 28.71 | 2.15 | 0.33 | 24.55 | 1.68 |
| Debits | | | | | |
| 31. Pension payments to retired persons | 9.42 | (4.81) | (1.11) | (2.50) | (1.00) |
| 32. Balance deposited with EAC | 19.29 | | | 19.29 | |
| 33. Total | 28.71 | 4.81 | 1.11 | 21.79 | 1.00 |
| SINKING FUND | | | | | |
| Credits | | | | | |
| 34. Income on funds assets | 0.08 | 0.03 | 0.01 | 0.04 | - |
| 35. Contributions received from EAC | | | | | |
| 36. Appreciation of investments | 0.03 | | | 0.03 | |
| 37. Total | 0.11 | 0.03 | 0.01 | 0.07 | - |
| Debits | | | | | |
| 38. Payments | | - | - | | - |
| 39. Balance deposited with EAC | 0.11 | | | 0.11 | |
| 40. Total | 0.11 | - | - | 0.11 | - |
| PROVIDENT FUND | | | | | |
| Credits | | | | | |
| 41. Income | 0.20 | 0.13 | 0.02 | 0.02 | 0.03 |
| 42. Bonus | 0.25 | | | 0.25 | |
| 43. Contributions received from EAC | 0.23 | | | 0.23 | |
| 44. Appreciation of investments | -0.24 | | | -0.24 | |
| 45. Total | 0.44 | 0.13 | 0.02 | 0.26 | 0.03 |
| Debits | | | | | |
| 46. Withdrawals | 0.16 | (0.08) | (0.04) | (0.04) | - |
| 47. Transfer to Pension Fund | 0.09 | | | 0.09 | |
| 48. Balance deposited with EAC | 0.19 | | | 0.19 | |
| 49. Total | 0.44 | 0.08 | 0.04 | 0.32 | - |

Note: Brackets indicate that allocations by country are arbitrarily made.

made either in proportion to the human or animal populations of the partner states, or in proportion to some relevant component in their gross domestic product.

7. Current expenditure on goods and services is recorded in item 5. There is no allocation problem where a department of the General Fund Services operates solely in one partner state as the expenditure - other than payments to the rest of the world - is allocated to that country. Where, however, the departments operate in all three, or any two, partner states, current expenditure on goods and services - other than payments to the rest of the world - of the department concerned is allocated amongst the partner states in the same proportion as the country breakdown of the personal emoluments of the staff engaged in these departments. Payments for merchandise imports form part of the current expenditure on goods and services. Since merchandise imports are included in the trade figures of the three partner states and therefore enter into their balance of payments, there is no need to record them as payments to the rest of the world. Instead, they are allocated to partner states in proportion to total emoluments in the three partner states. However, imports other than merchandise and which are not included in the trade figures of the partner states are recorded as payments to the rest of the world. Item 11 allows for the adjustment of Community imports into partner states when the proportions are different to those implicitly assumed in item 5.

8. Item 6 states the total of value added and its breakdown into its various components. These include the employer contribution to the pension fund. This contribution is not received by the current employees and it is offset by a contra entry, item 3, leaving the amount paid into the pension fund to be stated in item 6.2.

9. Repayments of loans, item 9, and gross fixed capital formation, item 10, represent below-the-line expenditure in the balance sheet of the General Fund Services. The need to include such expenditure in the revenue-expenditure account arises from the accounting practice used. When the General Fund Services borrows, both the value of the liability and of the asset that result from the loan are entered in the balance sheet. Subsequently, as a portion of the loan is repayed, not only is the liability reduced but the value of the asset that resulted is correspondingly reduced as well. This is quite different from commercial accounting practice where the value of the asset would be maintained in the firm's balance sheet at its original cost. Since two offsetting entries are made in the balance sheet of the General Fund Services to reflect the repayment of a loan, the amount repaid needs to be shown elsewhere in the expenditure account. There is also a need to show the acquisition of capital assets purchased out of revenue as below-the-line expenditure in the revenue-expenditure account. This is necessary because the capital asset acquired is not recorded in the balance sheet.

10. When the expenditures of the various departments in the General Fund Services fall below the levels approved for the financial year, the resulting excess revenue

is carried forward, being credited to the general revenue reserve, item 12. This increase in the general revenue reserve is in turn credited back to the accounts of contributors through item 18 of the capital finance account shown in Table 1.2.

Capital Finance Account: Table 1.2

11. The capital finance account is prepared by first bringing together the assets and liabilities of the pension, provident and sinking funds with others published in the balance sheet. The value of each asset or liability at the end of the year is then subtracted from the corresponding value a year earlier. Allocation by partner state of the changes in assets and liabilities is made on the basis of information obtained from the published financial statements. However, there is not sufficient information to make accurate country allocations for all items. In such cases, allocations have been done arbitrarily. Also shown in the capital finance account are the decrease in liabilities, item 14, and the offsetting changes in assets, item 20, mentioned in paragraph 9.

Special Fund Accounts: Table 1.3

12. The receipts of these funds consist of the contributions made by the General Fund Services, item 8 of Table 1.1. These, together with certain miscellaneous receipts, are included in items 28, 35 and 43 of Table 1.3. Income on their investments, items 25, 34 and 41, is also included in these accounts. Pensions paid to retired persons, item 31, are allocated amongst the partner states in the same proportion as personal emoluments of the employees of the General Fund Services currently resident in them.

National Accounts and Balance of Payments

13. The relevant information needed for the national accounts and the balance of payments is easily abstracted from Tables 1.1, 1.2 and 1.3. The value of output of the General Fund Services in Kenya is the total, in the second column of Table 1.1, of items 5 and 6. Item 5 is current expenditure on goods and services, in other words intermediate consumption, and item 6 is value added. In Kenya's case, its production of General Fund Services is different from its consumption of these services. The estimates of consumption by partner states of the different services produced by the General Fund Services is based on various criteria. For some services, consumption by partner states is taken as proportional to the populations of the three countries; for others, consumption is apportioned by some relevant national income component. The difference between the two is recorded in Kenya's balance of payments as an export or import of these services. This difference also features in the production account for producers of government services where the value of output is subdivided into production for own use and sales to other sectors. There, Kenya's consumption of Community services is classified as production for own use and its exports of services as sales to other sectors. In Kenya's case,

the General Fund Services have been net exporters of such services to the other two partner states.

EAST AFRICAN RAILWAYS CORPORATION

14. For the analysis of the East African Railways Corporation, the parent company branch approach is adopted. The parent company is taken as being in Kenya since the headquarters are in Kenya. The parent company is responsible for all operations in Kenya and the branches for those in Uganda and Tanzania. The parent company alone receives and pays interest, borrows and repays debt, and is responsible for special funds such as the depreciation reserve and the pension fund. The production account, the appropriation account, the capital finance account, and the pension and provident fund account of the parent company are shown, respectively, in Tables 2.1, 2.2, 2.3 and 2.4. The production account consists of a number of separate revenue-expenditure accounts; one for each of the various activities of the Corporation. In Kenya these consist of railway operations, water transport services, hotels and catering, maintenance of rolling stock and permanent way, and own account building and construction.

Revenue-Expenditure Railway Operations: Table 2.1

15. The initial allocation of revenue by partner state, both from passenger services and freight services, is done in proportion to passenger miles and ton miles operated, respectively, in each of the three partner states. However, the further allocation of Kenya's share of the revenue, by partner state or foreign country from which it is received, is not so straightforward. The suballocation of passenger revenue, in particular, poses severe problems. Indeed, for passenger revenue, item 1.1, the suballocation is very arbitrary, being based solely on "educated guesses" arising from knowledge of local conditions. Passenger revenue, however, is small compared with freight revenue.

16. With goods traffic, item 1.2, the suballocation is less difficult. Local traffic within Kenya is reported on a special form by the headquarters. Through traffic is allocated by means of trade matrices provided by the East African Customs and Excise Department. These matrices classify the value of goods leaving through Kenya ports by country of origin and classify the value of goods entering through Kenya ports by country of destination. Such information makes it possible to trace the value of through trade of partner states and of the rest of the world transported by the East African Railway Corporation in Kenya. Percentages, relating the cost of transport to the value of trade, are applied to these values to obtain the suballocation of Kenya's share of revenue from through goods received from other partner states or foreign countries. The suballocation of Kenya's revenue from inter partner state trade originating in Uganda and Tanzania is based on the value of their trade with Kenya.

Table 2.1 EAST AFRICAN RAILWAY CORPORATION: PRODUCTION ACCOUNTS OF PARENT COMPANY

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|--|-------|--------|--------|---------------|------------------|
| RAILWAY OPERATIONS | | | | | |
| Credits | | | | | |
| 1. Railway revenue: | 373.8 | 171.3 | 139.2 | 43.3 | 20.0 |
| 1.1 Passenger fares | 7.4 | (5.0) | (1.2) | (1.2) | |
| 1.2 Goods | 339.8 | 142.0 | 136.0 | 41.8 | (20.0) |
| 1.3 Livestock | 6.6 | (4.3) | (2.0) | (0.3) | |
| 1.4 Other | 10.0 | 10.0 | | | |
| 2. Imputed service charges | 55.0 | | 13.7 | 41.3 | |
| 3. Total | 428.8 | 171.3 | 152.9 | 84.6 | 20.0 |
| Debits | | | | | |
| 4. Expenditure on goods & services: | 266.0 | 266.0 | | - | |
| 4.1 Maintenance of permanent way | 113.1 | 113.1 | | | |
| 4.2 Maintenance & repairs of rolling stock | 109.6 | 109.6 | | | |
| 4.3 Locomotive running expenses) | 43.3 | 43.3 | | | |
| 4.4 Traffic expenses | | | | | |
| 5. Value added: | 162.8 | 162.8 | - | | |
| 5.1 Wages & salaries | 87.4 | 87.4 | | | - |
| 5.2 Employer contribution to pensions | 15.4 | 15.4 | | | |
| 5.3 Consumption of fixed capital | 25.6 | 25.6 | | | |
| 5.4 Operating surplus | 34.4 | 34.4 | | | |
| 6. Total | 428.8 | 428.8 | - | - | - |
| WATER TRANSPORT SERVICES | | | | | |
| Credits | | | | | |
| 7. Receipts: | 5.1 | (1.7) | (1.7) | (1.7) | - |
| 7.1 Passenger fares) | | | | | |
| 7.2 Goods | 5.1 | (1.7) | (1.7) | (1.7) | |
| 8. Total | 5.1 | 1.7 | 1.7 | 1.7 | - |
| Debits | | | | | |
| 9. Expenditure on goods & services | 2.4 | 2.4 | - | | |
| 10. Value added: | 2.7 | 2.7 | | | - |
| 10.1 Wages & salaries | 8.9 | 8.9 | | - | |
| 10.2 Employer contribution to pensions | 1.7 | 1.7 | | | |
| 10.3 Consumption of fixed capital | 2.6 | 2.6 | | | |
| 10.4 Operating surplus | -10.5 | -10.5 | | | |
| 11. Total | 5.1 | 5.1 | - | - | - |

Note: Brackets indicate that allocations by country are arbitrarily made.

Table 21 EAST AFRICAN RAILWAY CORPORATION: PRODUCTION ACCOUNTS OF PARENT COMPANY (Contd.)

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|------|-------|-------|--------|---------------|------------------|
|------|-------|-------|--------|---------------|------------------|

HOTELS AND CATERING

| | | | | | |
|--|------|------|--|--|--|
| Credits | | | | | |
| 12. Receipts | 4.8 | 4.8 | | | |
| 13. Total | 4.8 | 4.8 | | | |
| Debits | | | | | |
| 14. Expenditure on goods & services | 4.1 | 4.1 | | | |
| 15. Value added: | 0.7 | 0.7 | | | |
| 15.1 Wages & salaries | 1.9 | 1.9 | | | |
| 15.2 Employer contribution to pensions | 0.3 | 0.3 | | | |
| 15.3 Consumption of fixed capital | 0.5 | 0.5 | | | |
| 15.4 Operating surplus | -2.0 | -2.0 | | | |
| 16. Total | 4.8 | 4.8 | | | |

MANUFACTURING: MAINTENANCE OF ROLLING STOCK

| | | | | | |
|--|-------|-------|--|--|--|
| Credits | | | | | |
| 17. Maintenance & repair of rolling stock (contra item 4.2 above) | 109.6 | 109.6 | | | |
| 18. Total | 109.6 | 109.6 | | | |
| Debits | | | | | |
| 19. Expenditure on goods & services | 34.2 | 34.2 | | | |
| 20. Value added: | 75.4 | 75.4 | | | |
| 20.1 Wages & salaries | 44.3 | 44.3 | | | |
| 20.2 Employer contribution to pensions | 8.2 | 8.2 | | | |
| 20.3 Consumption of fixed capital | 13.0 | 13.0 | | | |
| 20.4 Operating surplus | 9.9 | 9.9 | | | |
| 21. Total | 109.6 | 109.6 | | | |

BUILDING AND CONSTRUCTION: MAINTENANCE OF WAY

| | | | | | |
|--|-------|-------|---|---|---|
| Credits | | | | | |
| 22. Maintenance of permanent way (contra item 4.1 above) | 113.1 | 113.1 | | | |
| 23. Total | 113.1 | 113.1 | - | - | - |
| Debits | | | | | |
| 24. Expenditure on goods & services | 24.3 | 24.3 | | - | - |
| 25. Value added: | 88.8 | 88.8 | - | | |
| 25.1 Wages & salaries | 52.4 | 52.4 | | | |
| 25.2 Employer contribution to pensions | 9.4 | 9.4 | | | |
| 25.3 Consumption of fixed capital | 15.3 | 15.3 | | | |
| 25.4 Operating surplus | 11.7 | 11.7 | | | |
| 26. Total | 113.1 | 113.1 | - | - | - |

Table 2.1 EAST AFRICAN RAILWAY CORPORATION: PRODUCTION ACCOUNTS OF PARENT COMPANY (Contd.)

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|-------|-------|--------|---------------|------------------|
| BUILDING AND CONSTRUCTION: ON OWN ACCOUNT | | | | | |
| Credits | | | | | |
| 27. Value of construction output | 39.7 | 39.7 | — | — | |
| 28. Total | 39.7 | 39.7 | - | - | - |
| Debits | | | | | |
| 29. Expenditure on goods & services | 19.8 | 19.8 | | | - |
| 30. Value added: | 19.9 | 19.9 | - | - | |
| 30.1 Wages & salaries | 19.9 | 19.9 | | | |
| 31. Total | 39.7 | 39.7 | - | - | - |

Table 2.2 EAST AFRICAN RAILWAY CORPORATION: APPROPRIATION ACCOUNT OF PARENT COMPANY

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|--------|--------|--------|---------------|------------------|
| Credits | | | | | |
| 32. Operating surplus of parent company | 43.2 | 43.2 | | | |
| 33. Net balances from branches | 0.3 | | -20.0 | 20.3 | |
| 34. Consumption of fixed capital | 88.4 | 57.0 | 11.3 | 20.1 | |
| 35. Pension & Provident Funds | 52.4 | 35.0 | 6.3 | 11.1 | |
| 36. Interest received | | | | | |
| 37. Grant from UK Government | 10.1 | | | | 10.1 |
| 38. Grant from Tanzania Government | 4.1 | | | 4.1 | |
| 39. Total | 198.5 | 135.2 | -2.4 | 55.6 | 10.1 |
| Debits | | | | | |
| 40. Service charges (contra Item 2 above) | 55.0 | | 13.7 | 41.3 | |
| 41. Interest paid | 97.4 | 27.2 | 2.5 | 7.5 | 60.2 |
| 42. Transfers to: | 149.6 | 149.6 | | | |
| 42.1 Depreciation Reserve | 88.4 | 88.4 | | | |
| 42.2 Pension & Provident Funds | 52.4 | 52.4 | | | |
| 42.3 Sinking Fund | 8.8 | 8.8 | | | |
| 43. Amortization of non-wasting assets | 5.9 | 5.9 | | | |
| 44. Balance | -109.4 | -109.4 | | | |
| 45. Total | 198.5 | 73.3 | 16.2 | 48.8 | 60.2 |

Table 2.3 EAST AFRICAN RAILWAY CORPORATION: CAPITAL FINANCE ACCOUNT OF PARENT COMPANY

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|--|--------|---------|--------|---------------|------------------|
| Credits | | | | | |
| 46. Balance on Appropriation Account | -109.4 | -109.4 | - | - | - |
| 47. Adjustments to capital surplus | 17.5 | 17.5 | - | - | - |
| 48. Increase in Depreciation Reserve | 88.4 | 88.4 | - | - | - |
| 49. Adjustment to Depreciation Reserve | -38.6 | -38.6 | - | - | - |
| 50. Increase in current liabilities | 95.2 | (95.2) | - | - | - |
| 51. Long term debt: | 60.3 | - | - | - | 60.3 |
| 51.1.1 Stock: new issues) | | | | | |
| 51.1.2 Stock: redemptions) | | | | | |
| 51.2.1 Loans: drawings) | 60.3 | - | - | - | 60.3 |
| 51.2.2 Loans: repayments) | | | | | |
| 52. Imputed sale of capital assets | 16.0 | - | 5.0 | 11.0 | - |
| 53. Increase in liability to: | 62.4 | 62.4 | - | - | - |
| 53.1 Sinking Fund | 18.3 | 18.3 | - | - | - |
| 53.2 Pension & Provident Funds | 44.1 | 44.1 | - | - | - |
| 54. Total | 191.8 | 115.5 | 5.0 | 11.0 | 60.3 |
| Debits | | | | | |
| 55. Gross capital formation: | 203.2 | 203.2 | - | - | - |
| 55.1 Fixed assets | 47.5 | 47.5 | | | |
| 55.2 Rolling stock | 63.8 | 63.8 | | | - |
| 55.3 Increase in inventories | 91.9 | (91.9) | | | |
| 56. Disposal of assets | -95.2 | -95.2 | - | - | - |
| 57. Investment In branches | 60.6 | - | 20.4 | 40.2 | - |
| 58. Investments: | 23.0 | - | - | - | 23.0 |
| 58.1 Other | 4.7 | - | - | - | 4.7 |
| 58.2 Sinking Fund | 18.3 | | | | 18.3 |
| 59. Short-term investments | -50.0 | (-50.0) | - | - | - |
| 60. Increase In debtors | 60.8 | (60.8) | - | - | - |
| 61. Increase in currency & deposits | -9.6 | (-9.6) | - | - | - |
| 62. Total | 191.8 | 108.2 | 20.4 | 40.2 | 23.0 |

Note: Brackets indicate that allocations by country are arbitrarily made.

Table 2.4 EAST AFRICAN RAILWAY CORPORATION: PENSION AND PROVIDENT FUNDS

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|-------|-------|--------|---------------|------------------|
| Credits | | | | | |
| 63. Contribution by Corporation | 52.4 | 52.4 | - | - | |
| 64. Interest & other income | 35.2 | | | | 35.2 |
| 65. Total | 87.6 | 52.4 | - | - | 35.2 |
| Debits | | | | | |
| 66. Pension payments to retired persons | 43.5 | 20.5 | 3.0 | 5.0 | 15.0 |
| 67. Balance | 44.1 | 44.1 | | | |
| 68. Total | 87.6 | 64.6 | 3.0 | 5.0 | 15.0 |

17. Details of expenditure on goods and services, item 4, are obtained from the special national accounts questionnaire completed by the Corporation. Some of the expenditures imputed to the operations of the parent company in Kenya - such as repair and maintenance of locomotives and rolling stocks - are for work undertaken for the Uganda and Tanzania branches of the Corporation. An imputed charge for such services, item 2, is therefore recorded as a receipt by the parent company. Without such an imputation, the operating surplus from railway operations of the parent company in Kenya would be understated and that of the branches comparably overstated. This imputed service charge is calculated as the difference between:

- the cost of headquarter expenditure for the whole corporation, traffic expenses and expenses on maintenance of rolling stock as allocated in the analysis for parent company and branches; and
- the amount actually expended on these headings by the parent company in Kenya and by the branches in Uganda and Tanzania.

The allocation of headquarter and traffic expenses is undertaken in proportion to the revenue earned by the parent company and branches, and that for maintenance of rolling stock in proportion to ton miles operated in the three partner states.

Revenue-Expenditure Water Transport Services: Table 2.1

18. Receipts by the Corporation are initially allocated to parent company and branches according to the partner state the payment is received from. The sub-allocations of parent company revenue from Uganda and Tanzania is, in the absence of any information, done arbitrarily. The amounts involved are, however, small.

Revenue-Expenditure Hotels and Catering Services: Table 2.1

19. Hotels and catering services in Kenya consist of the operation of restaurant cars and station buffets. Information on revenue and expenditure from these services is obtained from the national accounts questionnaire. It is assumed that the revenue of the parent company accrues entirely from residents - none coming from residents of other partner states or the rest of the world.

Revenue-Expenditure Manufacturing, Own-Account Building and Construction: Table 2.1

20. Here, too, the basic information on these activities is obtained from the national accounts questionnaire.

Value Added by Activity

21. The estimates based on the information obtained from the national accounts questionnaire need further adjustment in order to derive estimates of value added by activity:

- The headquarters expenditure of the parent company on salaries and wages and on goods and services* is prorated over the various current activities undertaken by the parent company in Kenya in proportion to wages and salaries paid in these activities. Consumption of fixed capital of the parent company in Kenya is similarly prorated, items 5.3, 10.3, 15.3, 20.3, and 25.3. The parent company's share of contribution to the pension fund is also prorated amongst its activities in Kenya in proportion to salaries and wages paid in the various activities, items 5.2, 10.2, 15.2, 20.2, and 25.2.
- Part of the operating surplus of the parent company is allocated to its manufacturing activity, maintenance of rolling stock, and part to its own account building and construction activity, maintenance of permanent way, Items 20.4 and 25.4. In each case, the share of the total operating surplus of the parent company is allocated in the proportion that wages and salaries paid in the activity bear to the total wages and salaries paid by the parent company in Kenya. The value of output of both these maintenance activities is equal to the sum of their intermediate consumption, items 19 and 24, and their contribution to value added, items 20 and 25; It is these values of output that enter as inputs into the other operating activities, items 4.1 and 4.2.
- The estimates of contributions to value added by the other various activities of the parent company in Kenya are derived as the difference between the value of output, items 6, 11, 16, and 31, and intermediate consumption, items 4, 9, 14, and 29. Operating surplus, items 5.4, 10.4, and 15.4, of these other activities is obtained by subtracting the estimates of their wages and salaries, their employer contribution to pensions and their consumption of fixed capital from the estimates of their value added. The value added component of own account building and construction activity consists of only wages and salaries. No imputation is made for either employer contribution to pensions or consumption of fixed capital.

Appropriation Account: Table 2.2

22. The operating surplus of the parent company, item 32, and that of the branches, item 33, and the parent company and branch contribution to the depreciation and the pension funds, items 34 and 35, are recorded on the receipt side of the appropriation account. The payment side includes the imputed service charge mentioned in paragraph 17, item 40; interest payments, item 41; and the amounts, items 42.1 and 42.2, transferred to the depreciation reserve, item 48, and the pension fund and provident funds, item 53, in the capital finance account shown in Table 2.3. The various items concerning pensions, items 35 and 42.2, and depreciation charges, items 34 and 42.1, exactly offset each other on the payment and receipt sides. These items could have been omitted and the amounts shown in the production account carried straight down to the capital finance account. Funnelling them through the

appropriation account, however, makes it easier to abstract the relevant information required for balance of payments calculations.

Capital Finance Account: Table 2.3

23. This account for the parent company contains details on the financing of its operations. Only the gross capital formation undertaken in Kenya is stated. It is presumed that the gross capital formation of the branches is financed by the parent company through a loan to the branches. Consequently, item 57, investment in branches, appears on the asset side of the parent company. Gross capital formation in mobile assets, such as locomotives and rolling stock, is allocated between parent company, item 55.2, and branches, item 52, on the basis of ton miles operated in partner states. Various other adjustments are also recorded in the capital finance account such as the changes in foreign liabilities due to fluctuation in exchange rates, items 47 and 49.

National Accounts and Balance of Payments

24. The relevant information for national accounts and balance of payments is abstracted from the accounts described above. The revenue-expenditure accounts for the parent company - detailing the activities of the Corporation in Kenya - show, for each activity, the value of output, intermediate consumption and value added. The components of value added are also given. Such estimates for every activity are then incorporated with those for the whole country. The figures in the country allocation columns of the various accounts provide the information needed for the balance of payments.

EAST AFRICAN AIRWAYS CORPORATION

25. The major part of the Corporation's revenue is derived from its international operations outside the three partner states. Since the East African Airways Corporation serves the East African Community as a whole and since its obligations are guaranteed jointly and severally by the three partner states, joint and equal ownership is implied. It thus seems appropriate to Impute a one third ownership of the Corporation to each of the partner states. It is essential to analyze the accounts of the Corporation in a way that takes cognizance of the joint nature of the enterprise. This is done by assuming that:

- The parent company operates in Kenya and branches are set up in Tanzania and Uganda, and that each branch owns one third of the mobile fixed assets, such as aeroplanes and spare parts, and all the immobile fixed assets, such as buildings, that are located in the country of the branch.

- The parent company alone receives or pays interest, and is responsible for external borrowing and for operating the pension and provident funds and the depreciation reserve.
- All revenues are received, in the first instance, by the parent company and all operating expenses are paid by it. However, the parent company pays the branches for the services they contribute. The value of these services is equal to the value added by the branch. Value added for a branch is equal to:
 - personal emoluments:- all personal emoluments of ground staff paid in the country of the branch and one third of the personal emoluments of flying crews;
 - depreciation: on fixed assets located in the country of the branch and one third of the depreciation on planes.
 - operating surplus: one third of the operating surplus of the whole Corporation.
- The operating surplus of a branch accrues to the parent company.
- One third of the net income of the parent company, after payment of interest on loans, etc., accrues to the Government of each partner state and is reinvested in the parent company.
- The gross capital formation of a branch consists of the investments in fixed assets located in the country of the branch, plus one third of the value of planes and parts purchased by the Corporation. This gross capital formation is financed by a loan from the parent company.

Following these assumptions, it is then possible to prepare for the parent company a production account, an appropriation account, a capital account and an account for the pension and provident fund. These accounts are set out in Tables 3.1, 3.2, 3.3, and 3.4. Apart from aircraft operations, the production account also refers to the manufacturing activity undertaken by the parent company in Kenya, that is, the provision of maintenance service.

Production Account: Table 3.1

26. The Corporation is not able to classify its passenger revenue, item 1, into separate components accruing from international and domestic flights. However, revenue receipts from the rest of the world are known and the remainder are arbitrarily allocated according to the partner state received from.

Table 3.1 EAST AFRICAN AIRWAYS CORPORATION: PRODUCTION ACCOUNTS OF PARENT COMPANY

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|--|-------|--------|--------|---------------|------------------|
| AIRCRAFT OPERATIONS | | | | | |
| Credits | | | | | |
| 1. Passenger revenue: | 288.2 | (36.1) | (27.7) | (27.2) | 197.2 |
| 1.1 External flights) | 288.2 | (36.1) | (27.7) | (27.2) | 197.2 |
| 1.2 Internal flights) | | | | | |
| 2. Goods revenue: | 41.3 | (1.4) | (1.4) | (1.3) | 37.2 |
| 2.1 External flights | 37.2 | | | | 37.2 |
| 2.2 Internal flights | 4.1 | (1.4) | (1.4) | (1.3) | |
| 3. Revenue from Simbair | 24.8 | - | - | - | 24.8 |
| 4. Revenue from mail | 16.8 | 5.9 | 1.1 | 2.5 | 7.3 |
| 5. Commissions & agency fees from other airlines | 22.3 | - | - | - | 22.3 |
| 6. Other | 9.7 | 5.2 | 1.7 | 2.5 | 0.3 |
| 7. Total | 403.1 | 48.6 | 31.9 | 33.5 | 289.1 |
| Debits | | | | | |
| 8. Expenditure on goods & services: | 288.0 | 125.6 | 26.7 | 17.9 | 117.8 |
| 8.1 Fuel & oil | 56.1 | 10.9 | 18.4 | 6.0 | 20.8 |
| 8.2 Maintenance & repair of aircraft | 29.4 | 29.4 | | | |
| 8.3 Aircraft spares | 22.2 | 2.8 | 0.7 | 1.1 | 17.6 |
| 8.4 Passenger meals | 31.4 | 20.7 | 1.9 | 1.7 | 7.1 |
| 8.5 Aircraft landing fees | 26.7 | 11.7 | 2.5 | 3.4 | 9.1 |
| 8.6 Insurance | 15.2 | 1.1 | | | 14.1 |
| 8.7 Crew expenses | 17.0 | (4.4) | (0.9) | (0.5) | (11.2) |
| 8.8 Consumable stores | 8.0 | 4.5 | 0.5 | 0.9 | 2.1 |
| 8.9 Revenue Simbair | 4.2 | 3.7 | | 0.1 | 0.4 |
| 8.10 Simbair | 13.6 | 7.7 | 0.5 | 0.5 | 4.9 |
| 8.11 Commission & agency handling charges | 34.0 | 3.1 | 0.9 | 3.2 | 26.8 |
| 8.12 Telephone 4 telex | 21.0 | 16.4 | 0.4 | 0.5 | 3.7 |
| 8.13 Charter hire | 9.8 | 9.8 | | | |
| 8.14 Others | 4.2 | 4.2 | | | |
| 8.15 Less recoveries | -4.8 | -4.8 | | | |
| 9. Services attributable to branches | 35.7 | - | 16.6* | 19.1* | - |
| 10. Wages & salaries payable In Rest of World | 5.7 | - | - | - | 5.7 |
| 11. Value added in Kenya: | 73.7 | 92.5* | -9.4 | -9.4 | - |
| 11.1 Wages & salaries | 64.3 | 83.1 | -9.4 | -9.4 | - |
| 11.2 Employer contribution to pension fund | 5.9 | 5.9 | | | |
| 11.3 Consumption of fixed capital | 13.8 | 13.8 | | | |
| 11.4 Operating surplus | -10.3 | -10.3 | | | |
| 12. Total | 403.1 | 218.1 | 33.9 | 27.6 | 123.5 |

* Includes earnings by Kenya residents in Uganda and Tanzania. See text.

Table 3.1 EAST AFRICAN AIRWAYS CORPORATION: PRODUCTION ACCOUNTS OF PARENT COMPANY (Contd.)

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|--|-------|-------|--------|---------------|------------------|
| MANUFACTURING: MAINTENANCE OF AIRCRAFT | | | | | |
| Credits | | | | | |
| 13. Maintenance 4 repair of aircraft (Contra Item 8.2 above) | 29.4 | 29.4 | | | |
| 14. Total | 29.4 | 29.4 | - | - | - |
| Debits | | | | | |
| 15. Expenditure on goods 4 services | 21.3 | 21.3 | | - | - |
| 16. Value added: | 8.1 | 8.1 | | | |
| 16.1 Wages 4 salaries | 7.1 | 7.1 | | | |
| 16.2 Employer contribution to pensions | 0.6 | 0.6 | - | | |
| 16.3 Consumption of fixed capital | 1.5 | 1.5 | | | |
| 16.4 Operating surplus | -1.1 | -1.1 | | | |
| 17. Total | 29.4 | 29.4 | - | - | - |

Table 3.2 EAST AFRICAN AIRWAYS CORPORATION: APPROPRIATION ACCOUNT OF PARENT COMPANY

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|-------|-------|--------|---------------|------------------|
| Credits | | | | | |
| 18. Operating surplus: | -34.2 | -11.4 | -11.4 | -11.4 | - |
| 18.1 Parent company | -11.4 | -11.4 | | | |
| 18.2 Branches | -22.8 | | -11.4 | -11.4 | - |
| 19. Consumption of fixed capital: | 40.6 | 15.3 | 12.6 | 12.7 | - |
| 19.1 Parent company | 15.3 | 15.3 | | | - |
| 19.2 Branches | 25.3 | | 12.6 | 12.7 | - |
| 20. Pension & Provident Fund contributions: | 7.0 | 6.5 | 0.2 | 0.3 | - |
| 20.1 Parent company | 6.5 | 6.5 | | | - |
| 20.2 Branches | 0.5 | | 0.2 | 0.3 | - |
| 21. Interest 4 dividends received | 0.9 | - | - | - | 0.9 |
| 22. Total | 14.3 | 10.4 | 1.4 | 1.6 | 0.9 |
| Debits | | | | | |
| 23. Interest paid | 20.8 | 4.7 | 1.1 | 1.1 | 13.9 |
| 24. Transfers to: | 47.6 | 47.6 | - | - | - |
| 24.1 Depreciation Reserve | 40.6 | 40.6 | - | - | - |
| 24.2 Pension 4 Provident Funds | 7.0 | 7.0 | | | |
| 25. Balance | -54.1 | -18.1 | -18.0 | -18.0 | - |
| 26. Total | 14.3 | 34.2 | -16.9 | -16.9 | 13.9 |

Table 3.3 EAST AFRICAN AIRWAYS CORPORATION: CAPITAL FINANCE ACCOUNT OF PARENT COMPANY

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|--|-------|--------|--------|---------------|------------------|
| Credits | | | | | |
| 27. Balance on Appropriation Account | -54.1 | -18.1 | -18.0 | -18.0 | |
| 28. Increase in Depreciation Reserve | 40.6 | 40.6 | | | |
| 29. Increase in current liabilities: | 96.1 | (64.4) | (4.9) | (3.1) | (23.7) |
| 29.1 Bank loans | 49.6 | (44.8) | (2.5) | (2.3) | |
| 29.2 Creditors | 46.5 | (19.6) | (2.4) | (0.8) | (23.7) |
| 30. Net increase in amount due under hire purchase | 22.2 | | | | (22.2) |
| 31. Long-term debt | | | | | |
| 32. Imputed sale of capital assets | 42.6 | | 21.3 | 21.3 | |
| 33. Increase In liability to Pension 4 Sinking Funds | | | | | |
| 34. Adjustments relating to prior years | -7.6 | -7.6 | | | |
| 35. Other adjustments | 1.0 | 1.0 | | | |
| 36. Total | 140.8 | 80.3 | 8.2 | 6.4 | 45.9 |
| Debits | | | | | |
| 37. Gross capital formation: | 67.9 | 67.9 | | | |
| 37.1 Fixed assets | 4.7 | 4.7 | | | |
| 37.2 Aeroplanes parts, spares | 63.8 | 63.8 | | | |
| 37.3 Stocks | -0.6 | -0.6 | | | |
| 38. Freehold & leasehold land | 3.2 | | | | |
| 39. Investment In branches | 43.2 | 3.2 | 21.7 | 21.5 | |
| 40. Increase in investments | | | | | |
| 41. Increase in debtors | 28.3 | | 1.5 | 1.9 | 15.4 |
| 42. Increase in currency & deposits | -1.8 | | -1.0 | | -0.8 |
| 43. Total | 140.8 | 80.6 | 22.2 | 23.4 | 14.6 |

Note: Brackets indicate that allocations by country are arbitrarily made.

Table 3.4 EAST AFRICAN AIRWAYS CORPORATION: PENSION AND PROVIDENT FUNDS

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|-------|-------|--------|---------------|------------------|
| Credits | | | | | |
| 44. Contribution by Corporation | 7.0 | 7.0 | - | - | |
| 45. Other contributions | 3.1 | 3.1 | | | |
| 46. Revaluation | 1.0 | | | | 1.0 |
| 47. Total | 11.1 | 10.1 | - | - | 1.0 |
| Debits | | | | | |
| 48. Pension payments to retired persons | 6.9 | 1.6 | 0.1 | 0.1 | 5.1 |
| 49. Balance | 4.2 | 4.2 | | | |
| 50. Total | 11.1 | 5.8 | 0.1 | 0.1 | 5.1 |

27. Freight revenue on international flights, item 2.1, is easy to allocate. Since exports are valued FOB (free on board), revenue from the carriage of exports is clearly a payment from the rest of the world. Revenue on the carriage of imports into Kenya is also a credit from the rest of the world, because Kenya's imports are valued CIF (cost, insurance, freight). Since imports are carried by a Kenya airline, the CIF value of imports in the merchandise account overstates the payments made abroad. Hence the need for an offsetting credit. Freight revenue on inter partner state trade, item 2.2, is allocated as a credit from partner states in proportion to the value of such trade. This assumes that such imports into Kenya are valued CIF.

28. In the national accounts questionnaire, the Corporation provides details of its operating expenditure on goods and services, items 8 and 15, and the partner state in which the expenditure is incurred. To avoid double counting, allocation of expenditure by partner states is again only made for transactions not included in the merchandise account of the balance of payments.

29. Care, however, is needed in treating the expenditure on fuel, item 8.1, which is a large figure. When a Corporation plane refuels at Nairobi the transaction is a straightforward transaction between residents since the oil refinery is in Kenya. The oil refinery also exports fuel to Uganda and Tanzania and such exports are recorded in the trade figures. However, when a part of this oil is used to refuel a Corporation plane in Uganda or Tanzania the purchase of this fuel is not recorded in the trade figures as an import by Kenya. It should be, since the parent company, which pays for the fuel, is a resident of Kenya. Such an expenditure on fuel has therefore to be allocated to the partner state in which, the purchase was made.

30. The payment by the parent company to branches for the services they perform, item 9, is assessed as stated in paragraph 25.

31. Sufficient information is provided in the national accounts questionnaire for wages and salaries, items 11.1 and 16.1, to be allocated by activity. The head-quarter expenses, operating surplus, employer contribution to pension fund and depreciation charges of the parent company are allocated amongst its activities in proportion to salaries and wages in them.

Appropriation Account and Capital Finance Accounts: Tables 3.2 and 3.3

32. These accounts are similar to those prepared for the East African Railways Corporation. In the appropriation account, the net earnings for the parent company, item 25, are shown as paid to the Governments of the partner states, who re-invest them in the company, item 27. The parent company is presumed to purchase, in the first instance, all the planes and spare parts, item 37.2. It then makes an imputed sale to each branch of one third of the value of planes and parts pur-

chased, item 32. The gross capital formation of branches is financed by a loan from the parent company, item 39.

National Accounts and Balance of Payments

33. The production accounts for the parent company give all the information needed for Kenya's national accounts. They show, both for aircraft operations and manufacturing, the value of output, intermediate consumption, and value added and its components. There is, however, one small complication. Since one third of the planes is owned by the parent company and each branch, one third of the personal emoluments of the flying crews is allocated to each branch. But the flying crews are in fact residents of Kenya. Accordingly, in the calculation of Kenya's gross national product, the personal emoluments of the flying crews attributed to the branches are recorded as factor income earned abroad.

EAST AFRICAN POSTS AND TELECOMMUNICATIONS CORPORATION

34. The parent company of this Corporation is presumed to be resident in Uganda where its headquarters are located. Its operations in Kenya and Tanzania are undertaken by branches. The activities in Kenya consist of postal and telecommunication services, manufacturing in the form of maintenance services, and own account building and construction.

Production Accounts: Table 4.1

35. The production accounts for the Kenya branch show not only its total revenue, item 1, but also the amounts received from the other two partner states and the rest of the world. Similarly, on the expenditure side, the total expenditure on goods and services, item 3, is stated along with the amounts spent in each partner state and the rest of the world. The information is obtained from the national accounts questionnaire.

36. Most of the expenditure by the headquarters is incurred in Uganda but not all. If the headquarter expenditure were debited solely to the parent company, the operating surplus of the parent company would be understated and that of the branches overstated. To prevent this, it is presumed that the Kenya branch pays the parent company an imputed management service charge, item 5. The management service charge for a branch is calculated as the difference between:

- the headquarter expenditure of the whole corporation allocated to the branches and parent company in proportion to their revenues; and
- the actual headquarter expenditure incurred by the branches and parent company.

Table 4.1 EAST AFRICAN POSTS AND TELECOMMUNICATIONS CORPORATION:
PRODUCTION ACCOUNTS OF THE KENYA BRANCH

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|------|-------|-------|--------|---------------|------------------|
|------|-------|-------|--------|---------------|------------------|

POSTAL AND TELECOMMUNICATION OPERATIONS

| | | | | | |
|---------------------------------------|-------|-------|-----|---|------|
| Credits | | | | | |
| 1. Revenue: | 148.5 | 141.7 | | | 6.8 |
| 1.1 Postal & remittances | 41.0 | 38.1 | - | - | 2.9 |
| 1.2 Telecommunications | 105.7 | 101.8 | | | 3.9 |
| 1.3 Agency services | 1.8 | 1.8 | | | |
| 2. Total | 148.5 | 141.7 | - | - | 6.8 |
| Debits | | | | | |
| 3. Expenditure on goods & services: | 43.2 | 19.9 | | | 23.3 |
| 3.1 Regional headquarters | 0.3 | 0.3 | | | |
| 3.2 Operational | 9.4 | 9.4 | | | |
| 3.3 Conveyance of mails | 10.8 | 8.5 | | | 2.3 |
| 3.4 International services | 21.0 | | | | 21.0 |
| 3.5 Training | 1.5 | 1.5 | | | |
| 3.6 Other | 0.2 | 0.2 | | - | |
| 4. Maintenance of equipment | 27.5 | 27.5 | | | |
| 5. Imputed management service charges | 6.6 | | 6.6 | | |
| 6. Value added: | 71.2 | 71.2 | | | |
| 6.1 Wages & salaries | 27.6 | 27.6 | | | |
| 6.2 Employer contribution to pensions | 5.3 | 5.3 | | | |
| 6.3 Consumption of fixed capital | 11.4 | 11.4 | | | |
| 6.4 Operating surplus | 25.4 | 25.4 | | | |
| 6.5 Indirect taxes | 1.5 | 1.5 | | | |
| 7. Total | 148.5 | 118.6 | 6.6 | - | 23.3 |

MANUFACTURING: MAINTENANCE OF EQUIPMENT

| | | | | | |
|---|------|------|---|---|---|
| Credits | | | | | |
| 8. Maintenance of equipment (contra item 4 above) | 27.5 | 27.5 | | | |
| 9. Total | 27.5 | 27.5 | - | - | - |
| Debits | | | | | |
| 10. Expenditure on goods & services | 7.7 | 7.7 | | | - |
| 11. Value added: | 19.8 | 19.8 | | | |
| 11.1 Wages & salaries | 8.3 | 8.3 | | | |
| 11.2 Employer contribution to pension | 1.3 | 1.3 | - | - | |
| 11.3 Consumption of fixed capital | 2.6 | 2.6 | | | |
| 11.4 Operating surplus | 7.6 | 7.6 | | | |
| 12. Total | 27.5 | 27.5 | - | - | - |

Table 4.1 EAST AFRICAN POSTS AND TELECOMMUNICATIONS CORPORATION:
PRODUCTION ACCOUNTS OF THE KENYA BRANCH (Contd.)

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|---|-------|-------|--------|---------------|------------------|
| BUILDING AND CONSTRUCTION: ON OWN ACCOUNT | | | | | |
| Credits | | | | | |
| 13. Value of construction output | 15.1 | 15.1 | | | — |
| 14. Total | 15.1 | 15.1 | - | - | - |
| Debits | | | | | |
| 15. Expenditure on goods & services | 9.2 | 9.2 | | - | |
| 16. Value added: | 5.9 | 5.9 | - | | - |
| 16.1 Wages & salaries | 5.9 | 5.9 | | | |
| 17. Total | 15.1 | 15.1 | - | - | - |

Table 4.2 EAST AFRICAN POSTS AND TELECOMMUNICATIONS CORPORATION:
APPROPRIATION ACCOUNT OF THE KENYA BRANCH

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|--|-------|-------|--------|---------------|------------------|
| Credits | | | | | |
| 18. Operating surplus | 33.0 | 33.0 | - | | |
| 19. Pension Fund contribution | 6.6 | 6.6 | | - | - |
| 20. Consumption of fixed capital | 14.0 | 14.0 | | | |
| 21. Total | 53.6 | 53.6 | - | - | - |
| Debits | | | | | |
| 22. Transfers to parent company's: | 20.6 | | 20.6 | - | - |
| 22.1 Depreciation Reserve | 14.0 | | 14.0 | | |
| 22.2 Pension Fund | 6.6 | - | 6.6 | | |
| 23. Balance accruing to parent company | 33.0 | | 33.0 | | |
| 24. Total | 53.6 | - | 53.6 | - | - |

Table 4.3 EAST AFRICAN POSTS AND TELECOMMUNICATIONS CORPORATION:
CAPITAL FINANCE ACCOUNT OF THE KENYA BRANCH

(Shs. million)

| Item | Total | Kenya | Uganda | Tanza- nia | Rest of World |
|--|-------|-------|--------|---------------|------------------|
| Credits | | | | | |
| 25. Loans received from parent company | 29.1 | | 29.1 | | — |
| 26. Total | 29.1 | - | 29.1 | - | - |
| Debits | | | | | |
| 27. Gross capital formation: | 29.1 | 29.1 | - | - | |
| 27.1 Own-account construction | 15.1 | 15.1 | | | - |
| 27.2 Equipment | 14.0 | 14.0 | | | |
| 28. Total | 29.1 | 29.1 | - | - | - |

37. The production accounts for the Kenya branch also give details on value added and its components for each activity. The required information is obtained from the national accounts questionnaire, but some adjustments are made to it. Depreciation, items 6.3 and 11.3, applicable to the Kenya branch is prorated over its postal and telecommunications operations and its manufacturing activity, maintenance of equipment, in the proportions of wages and salaries paid in these activities. Employer contribution to pension fund, items 6.2 and 11.2, is also similarly allocated, and so, too, is the operating surplus, items 6.4 and 11.4, of the branch. The value of output of the manufacturing activity is the sum of its intermediate consumption, item 10, and value added, item 11; it is this value of output that enters as an input into the operations activity, item 4.

38. Value added from own account building and construction consists solely of wages and salaries. Some depreciation should be imputed but no information is available for making such an imputation.

Appropriation Account and Capital Finance Account: Tables 4.2 and 4.3

39. These accounts are similar to those of the East African Railways Corporation and the East African Airways Corporation. Gross capital formation of the Kenya branch is financed by a loan from the parent company, item 25.

National Accounts and Balance of Payments

40. For Kenya's national accounts, the information required for each activity - value of output, intermediate consumption, value added and its components - is stated in the various production accounts of the branch. The country allocation columns give the data needed for the balance of payments.

EAST AFRICAN HARBOURS CORPORATION

41. The analysis of the operations of this Corporation is similar to that for the East African Posts and Telecommunications Corporation and the East African Railways Corporation. All operations in Tanzania are regarded as being undertaken by the parent company and those in Kenya and Uganda by a branch. Again the usual production, appropriation, capital finance and special fund accounts are prepared for parent company and branches. Separate production accounts are prepared for each activity. The activities consist of port operations, manufacturing in the form of engineering works, and own account building and construction.

Production Accounts

42. The national accounts questionnaire provides figures on revenues received and expenditures incurred by ports in Kenya. The receipts of the Kenya branch from unloading imports are allocated according to the country received from. The allo-

cations are made in proportion to the value of imports passing through Kenya ports.

43. The FOB value of exports in the merchandise accounts of Kenya's balance of payments excludes loading charges by the East African Harbours Corporation. The receipts of the Kenya branch from loading exports are therefore regarded as payments from abroad.

44. Rent and storage charges received by the branch are split in proportion to the charges for loading exports and unloading imports. Each part is then allocated analogously to the loading or unloading of exports and imports respectively.

45. The revenues of the branch from marine charges and stevedoring services are paid by shipping lines. All such payments are made by foreign shipping lines except for relatively small sums paid by the Eastern Africa National Shipping Corporation and another resident, but private, shipping enterprise. Current expenditure on goods and services by the Kenya branch is allocated by partner state or foreign country, in accordance with information supplied in the national accounts questionnaire. But any imports included in the trade figures are entered in the Kenya column to avoid double counting.

46. Although the expenditure of the headquarters is mostly incurred in Tanzania, both the parent company and the Kenya branch benefit from it. A service charge is therefore imputed. This service charge is the difference between the total headquarter expenditure of the Corporation allocated to the parent company and the branch in proportion to their revenues and the headquarter expenditure that is actually incurred by the parent company and branch. This service charge is a credit for the parent company and a debit for the Kenya branch.

47. The national accounts questionnaire also provides the information needed to prepare the production accounts for the manufacturing and own-account building and construction activities of the Kenya branch. Value added for each activity of the branch is obtained from the analysis in the same way as for the East African Posts and Telecommunications Corporation.

Appropriation Account, Capital Finance Account and Special Fund Account

48. These accounts are similar to those for the other corporations.

National Accounts and Balance of Payments

49. As for other corporations, the data required for the national accounts on the value of output, intermediate consumption, value added and its components for each activity can be abstracted from the production accounts prepared for the branch. Information for the balance of payments is to be found in the country allocation columns.

EASTERN AFRICA NATIONAL SHIPPING LINE

50. One sixth of the share capital of the Eastern Africa National Shipping Line is owned by each of the Governments of Kenya, Uganda, Tanzania and Zambia, and the remaining two sixths by a commercial enterprise resident in Kenya. Thus, residents of Kenya own one half of the share capital, and those of Uganda, Tanzania and Zambia one sixth each. The operations of the line are analyzed in the same way as those of the East African Airways Corporation. It is essential to take into account the joint nature of the undertaking. The analysis is undertaken on the basis of the parent company branch approach; the parent company being resident in Kenya. Specifically, it is assumed that:

- The parent company owns all the fixed assets located in Kenya and one half of the mobile assets, namely ships. Each of the three branches owns one Sixth of the ships and all the fixed assets located in the country of the branch.
- The parent company alone receives and pays interest, is responsible for the borrowing and repayment of loans, and administers the sinking, depreciation and pension funds.
- All revenues are received, in the first instance, by the parent company and all operating expenses paid by it. However, the parent company pays the branches for the service they contribute. The value of these services is equal to value added by the branches. This in aggregate is equal to:
 - personal emoluments: all personal emoluments of shore staff paid in countries of branches and one half of personal emoluments of crews;
 - operating surplus: one half of operating surplus of the corporation;
 - depreciation: depreciation of fixed assets located in countries of branches and one half of the depreciation of ships.
- The parent company makes loans to the branches to finance their gross capital formation.

Production Accounts

51. These accounts record the total revenues and operating expenditures, all of which accrue to the parent company. Information is received from the Corporation on the revenue earned from shipping goods between foreign countries; this is a payment by the rest of the world. The remaining receipts from cargo traffic are divided into two parts. The subdivision is done in proportion to the value of exports from East African ports, plus the value of goods landed in East Africa and transited to foreign countries; and the value of imports into East Africa by partner states. The first part represents a payment from the rest of the world. The

second part is again divided up into freight revenue earned on imports through East African ports. Estimated revenue from shipping imports into Kenya is shown as a credit from the rest of the world since her imports are value CIF, and the remainder as receipts from Uganda and Tanzania.

52. Current expenditure on goods and services is allocated to the country where incurred on the basis of the information obtained through the national accounts questionnaire. The parent company also pays the branches for the services they render. Expenditures on messing are regarded as income in kind. An equivalent amount is therefore added to the salaries and wages of crews of the parent company with an offsetting contra entry.

53. Value added of the parent company is easily derived by subtracting its intermediate consumption from the value of output. Wages and salaries of the parent company are equal to those of shore staff located in Kenya plus one half of those of crews. Depreciation is similarly computed on the fixed assets located in Kenya plus one half of that on ships. The operating surplus of the parent company, the residual because of the way estimates are made, is equal to one half of that for the whole Corporation.

Appropriation Account, Capital Finance Account and Special Fund Account

54. These accounts are derived in exactly the same way as those of the other corporations.

National Accounts and Balance of Payments

55. As in the case of the East African Airways Corporations, the contribution to Kenya's gross national product is different from that to her gross domestic product. It so happens that most of the crews are residents of Kenya. The difference between the wages and salaries earned by these crews and the amounts imputed as paid by the parent company represents factor income earned abroad. This is added to the Corporation's contribution to gross domestic product to yield its contribution to gross national product.

EAST AFRICAN DEVELOPMENT BANK

56. The headquarters of the Bank are located in Uganda and the share capital is jointly owned by the three partner states. The parent company branch approach is not adopted in analyzing the operations of this Corporation. It seems simpler to regard the Bank as resident of Uganda with one third of its capital owned by each partner state. The contribution of the Bank's activities to Kenya's gross domestic product is equal to the small amount of wages and salaries paid out by the Bank's sub-office. The contribution to Kenya's gross national product, however, is larger since it also includes one third of the operating surplus of the Bank in proportion to Kenya's shareholding of the equity capital.

Appendix 7

BRIEF COMMENTS ON PRINCIPAL SOURCES OF DATA

Census of Large Farms

1. This annual census is a complete enumeration of farms in the former scheduled areas. It is supplemented by a sample survey of crop production and farm inputs. Between them, the census and the sample survey provide data on the area of land under each major crop, and on the output of all major crops and their disposal - that is, whether sold to marketing boards, sold on local markets, or home consumed. The value of such sales is also given. Similar information, including details on disposals, is obtained about animals and animal products. Recorded, too, is the size of herds at the end of the year. The numbers of animals are subclassified by type of animal, by whether pedigree or non-pedigree, and by whether mature or immature. Stated in detail are the costs of inputs such as the costs of fertilizers, insecticides, animal feeding stuffs, crop spraying, repairs and maintenance, hire of machinery, fuel, water and electricity, insurance, and administration, etc. Other information collected is the numbers of different types of mechanical equipment used and capital expenditures by type of asset. The census and the sample survey are postal enquiries(1).

Integrated Rural Survey

2. This survey was first conducted in 1974/75(2) and has since been undertaken annually. A multi-stage, stratified sampling design is used. The smallest administrative area is the primary sampling unit, followed by the cluster and the household as the second and third stages of the sample. Each cluster contains approximately 200 households. The primary sampling units, which are also stratified by agro-ecological zones, are drawn with probability proportional to size. Households in selected clusters are also stratified by size of household and by

(1) For additional details see the publication cited in footnote 2 of Chapter 3.

(2) The results of this year are to be found in the publication referred to in footnote 1 of Chapter 3.

occupation of head of household. A uniform overall sampling fraction is used in each primary stratum(3). The survey collects data on the size and composition of the household, on its income and its consumption expenditure, on the durable consumer goods it owns, and on its capital expenditures. Where the household owns a farm(4) details are collected on its size, on the area under major crops, on the value of inputs and on the value and disposal of outputs. A core of questions to provide such information remains unchanged from year to year. Enumerators visit the selected households and complete the questionnaires either through the interviews they hold or from the measurements they make.

Survey of Manufacturing Industry

3. The frame for this annual survey is drawn from the register of establishments which is maintained and updated each year by the Central Bureau of Statistics. All manufacturing establishments with 50 or more employees are included in the survey. Establishments with 20 to 49 employees are stratified by kind of manufacturing activity and a 25 per cent sample is taken. However, when there are only a small number of establishments in a stratum, a higher sampling fraction is taken. Details are collected on the value of the various outputs, including the value of own account capital formation, at producer prices; on intermediate consumption at purchaser prices; on labour costs, operating surplus and the consumption of fixed capital; on capital formation classified by type of asset; on stocks - at the start and end of the accounting period - of raw materials, of finished goods and of work in progress; and on staff employed at the start and end of the period. The information is obtained through a mail questionnaire.

Survey of Manufacturing Output

4. Information about the output of the 300 most important commodities produced by the manufacturing sector is collected monthly. The data are used to construct indices of manufacturing output both at the 3-digit level of aggregation and for the manufacturing sector as a whole(5). Questionnaires are sent and returned by mail.

- (3) For further details on the sample design, see "The National Integrated Sample Survey Programme: Sample Design" in the Kenya Statistical Digest (Vol. XIV, No. 3) of September 1976; and "A Review of the Methodological Design, Operation and Problems of Kenya's Multi-Purpose National Sample" in the Kenya Statistical Digest (Vol. XV, No. 4) of December 1977.
- (4) For further clarification, see "The Household and The Holding in Kenya" in the Kenya Statistical Digest (Vol. XIV, No. 4) of December 1976.
- (5) See also paragraph 13 and Table 7.2 of Chapter 7 for additional details about the indices and the products selected.

Survey of Mining and Quarrying

5. Each year, information similar to that provided by the Survey of Manufacturing Industry is obtained with mail questionnaires from enterprises engaged in this activity. All establishments engaged in mining and quarrying with 50 and more employees are covered; a sample is taken of establishments with 20 to 49 employees.

Survey of Building Contractors

6. As with the Survey of Manufacturing Industry and the Survey of Mining and Quarrying, the survey is conducted-annually. All contractors with 50 or more employees are covered. A 25 per cent sample is taken of establishments with 20 to 49 employees which are stratified by type of building activity. Information similar to that collected in the Survey of Manufacturing Industry is obtained using a mail questionnaire.

Business Expectations Enquiry

7. This survey covers all activities other than agricultural and those pursued by small scale enterprises in rural areas. All establishments with 50 or more employees are included and a 25 per cent sample is taken of establishments with 20 to 49 employees. The survey, which is a postal enquiry, is undertaken quarterly; its purpose is to obtain quick, up-to-date information. Only a limited amount of detail is therefore requested. The main items investigated are the value of sales, stock levels and numbers engaged. For each item, actual figures for the past two quarters are requested as well as expected figures for the next two quarters and for the whole of the current calendar year. The questionnaire for the fourth quarter of the year also asks firms to state their capital expenditures, classified by type of asset, in the past calendar year and their expected capital expenditures in the forthcoming year.

Survey of Employees and Self-Employed Persons

8. This survey covers all establishments in urban areas having a permanent workplace, and all large scale enterprises, including large farms, in rural areas. From each establishment, information is sought on the number of persons engaged in it, subclassified into wage employees, self-employed persons and unpaid family workers. Also recorded are details on their earnings. Earnings include income, overtime pay and bonuses, as well as remuneration in kind such as free housing, food and passage allowance, etc. Employment and earnings are analyzed by occupation, industry, province, and by private and public sectors. In addition, an attempt is made to cover the informal economy in urban areas. The "informal economy" consists of enterprises undertaking activities without a permanent workplace; these consist of activities such as shoeshining, street vending, basket making, etc. All municipalities are covered and other towns - stratified by province and

size - are sampled. A sample is also taken of rural markets. Details are obtained on the employment status of the enterprises - that is, whether they have paid employees or are run by self-employed or unpaid family workers - and on the type of activity in which they are engaged. Except for the informal economy, for which enumerators are used, the information is collected by means of a mail questionnaire(6) .

Survey of Distribution, 1971

9. As with the surveys of employment and industrial activities mentioned above, the frame for this survey was drawn from the register of establishments maintained by the Central Bureau of Statistics. Establishments were stratified by province, by type of wholesale or retail activity, and by number of persons engaged. All establishments with 10 or more persons engaged were fully covered. A variable sampling fraction was taken of the smaller establishments. Information was collected on sales, stocks, intermediate consumption, labour costs and employment, operating surplus and consumption of fixed capital, and capital expenditures. Details were also obtained on the throughputs handled by these establishments who were asked to classify them into Kenya agricultural produce, locally manufactured goods, imports from Uganda and Tanzania, and imports from the rest of the world. The survey was a postal enquiry(7).

Census of Industry, 1972

10. The census covered all establishments engaged in mining and quarrying, manufacturing, and building and construction. In urban areas, all establishments with 5 or more persons employed were included as were all large establishments in rural areas. In addition, a 25 per cent sample was taken in urban areas of establishments with less than 5 employees. Details were obtained on the value of output, intermediate consumption, stocks, labour costs, operating surplus, consumption of fixed capital, capital expenditures and on the number of persons employed in the establishment. Establishments were also asked to state separately the value of their main outputs. The information was collected by means of a mail questionnaire.

Survey of Small Scale Rural Enterprises, 1972

11. The sample for this survey was drawn from a frame of trading centres which was compiled with the help of chiefs and sub-chiefs. When compiling the frame,

(6) See, for example, Employment and Earnings in the Modern Sector 1972-1973, Central Bureau of Statistics, Ministry of Finance and Planning, Nairobi, June 1976.

(7) Additional information can be found in "Preliminary Results of the Survey of Distribution 1971" in the Kenya Statistical Digest (Vol. XII, No. 2) of June 1974.

information on the approximate number of enterprises in each centre was collected. Trading centres were then stratified by district and size - based on the approximate number of establishments in the centre - and a varying fraction of the enterprises selected as respondents. The survey secured data on sales, intermediate consumption, labour costs and employment. The enterprises covered can be classified as being engaged in the activities, or the production of products, listed below:

- Inland water fishing.
- Processing of small farm produce.
- Grain milling.
- Bakery products.
- Sugar factories and refineries.
- Knitting mills.
- Tailoring.
- Footwear manufacture and repair.
- Tanneries and leather finishing plants.
- Sawmilling.
- Wood carving.
- Furniture and fixtures.
- Non-metallic mineral products nec.
- Metal products, except machinery and transport equipment.
- Electrical machinery and appliances.
- Repair of road vehicles.
- Bicycle repairs.
- Miscellaneous manufacturing industries.
- Other handicrafts.
- Plumbing.
- Wholesale trade in food, drink and tobacco.
- Wholesale trade in agricultural produce.
- Wholesale trade in oil and petrol.
- Wholesale trade in textiles, soft furnishing, clothing and shoes.
- Wholesale trade in building materials, hardware and timber.
- General wholesale trade.
- Wholesale trade nec.
- Retail trade in food, drink and tobacco.
- Retail trade in oil and petrol.
- Retail trade in textiles, soft furnishings, clothing and shoes.
- Retail trade in domestic hardwares, building materials and timber.
- Retail trade in photographic and pharmaceutical goods.
- General retail trade.
- Retail trade nec.
- Butcheries.
- Road passenger transport, except omnibus operators.

- Road transport nec.
- Storage and warehousing.
- Education services.
- Medical and welfare services.
- Restaurants and similar services.
- Laundries, cleaning and dyeing services.
- Barber services.
- Photographers.

Survey of Services, 1975

12. This survey covered business services and other services provided by private enterprises and private non-profit institutions. The undermentioned activities were covered and information obtained on the value of output, intermediate consumption, labour costs and employment, and capital expenditure.

- Restaurants, cafes and other eating and drinking places.
- Hotels, rooming houses, camps and other lodging places.
- Legal services.
- Accounting, auditing and bookkeeping services.
- Data processing and tabulating services.
- Engineering, architectural and technical services.
- Advertizing services.
- Business services, except machinery and equipment rental and leasing, nec.
- Machinery and equipment rental and leasing.
- Private education services.
- Research and scientific institutes.
- Private medical, dental and other health services.
- Veterinary services.
- Welfare institutions.
- Business, professional and labour associations.
- Religious organizations.
- Social and related community services nec.
- Motion pictures and other entertainment services.
- Libraries, museums, botanical and zoological gardens and other cultural services nec.
- Pleasure boat hire.
- Other amusement and recreational services nec, such as flying clubs, football clubs, etc.
- Laundries, laundry services, cleaning and dyeing plants.
- Domestic services.
- Barber and beauty shops.
- Photographic studios.
- Hunting and tourist guide services.
- Personal services nec.

Appendix 8

PROVISIONAL ESTIMATES

1. This appendix covers those sectors for which the provisional estimates of output and value added are made differently from the final estimates. These sectors are:

- Mining and Quarrying.
- Manufacturing.
- Building and Construction.

2. The methods used for making the final estimates for these three sectors are described in Chapters 6, 7 and 8. The sources of information mentioned for making these estimates are:

- annual Survey of Mining and Quarrying,
- annual Survey of Manufacturing Industry,
- annual Survey of Building Contractors,
- annual Survey of Employees and Self-Employed Persons.(1)

The first three of these four surveys cover, in their respective sectors, all establishments employing 50 or more persons; and a 25 per cent sample of those establishments employing 20 to 49 persons. Because these three annual surveys obtain detailed information, it takes time for the questionnaires to be completed and returned. Usually, they are not received by the Central Bureau of Statistics until near the end of the year subsequent to the year of reference.

3. Provisional estimates, however, are required much earlier, by the end of April following the year of reference. The fourth round of the quarterly Business Expectations Enquiry - undertaken at the end of the fourth quarter of the calendar year - provides annual figures from which the provisional estimates of output for

(1) For further details on these surveys and on the Business Expectation Enquiry which is referred to later, see Appendix 7.

these sectors are made. The enquiry covers the same establishments as the annual surveys. However, since its questionnaire is simple and secures limited information, it is quickly completed and returned. Value of total sales is one of the principal items of information it supplies.

4. The method used for making the provisional estimates is the same for each of the three sectors. This is first to calculate, from data provided by the Business Expectations Enquiry, the percentage change in sales in the current year for establishments employing 50 or more persons. This percentage is then applied to the previous year's final estimate of the value of output for establishments in this size class to obtain a provisional estimate of the value of output in the current year. The process is repeated for establishments with 20 to 49 employees and for establishments employing less than 20 persons. However, as the latter are not covered by the Business Expectations Enquiry, it is assumed that the percentage change in sales is the same as that calculated for establishments with 20-49 employees.

5. Provisional estimates of value added are similarly made. First, the percentage change in the wage bill in the current year is calculated for establishments employing 50 or more persons using information supplied by the annual Survey of Employees and Self-Employed Persons. Then this percentage is applied to the previous year's final estimate of value added for establishments in this size class to obtain a provisional estimate of value added in the current year. The implicit assumption here is that the ratio of the wage bill to the other components of value added remains unchanged between the two years. The procedure is repeated for those establishments with 20-49 employees and for those employing less than 20 persons. The annual Survey of Employees and Self-Employed Persons also covers establishments employing less than 20 persons.

6. For sectors other than the three discussed above, the sources and methods for making the final and provisional estimates are the same. However, the data originally sent in by respondents are sometimes changed on cross verification with other comparable data. Occasionally, when the information is not received in time, estimates are based on past trends and relationships with other series.

Appendix 9

RELIABILITY OF ESTIMATES

1. From the variety of sources and methods described in this report, it will be evident that the quality of data used in compiling the estimates of value added, or gross domestic product, is by no means consistent either between or within sectors. As it is considered useful to give some idea of the reliability of the various estimates of value added, an attempt has been made to assess their reliability. The results of this assessment are shown in Table 1.

2. In Table 1, the estimates of value added for each major activity are rated in one of four categories, A to D, as to their order of reliability. Each category indicates the range in which the true estimate is believed to lie:

- A indicates a range of ± 5 per cent;
- B indicates a range of ± 10 per cent;
- C indicates a range of ± 20 per cent;
- D indicates a range of ± 40 per cent.

Quantitative rather than the more usual qualitative - such as "good", "fair" and "rough" - gradings have been used because users instinctively translate qualitative categories into percentage errors. These will invariably differ between users depending on their optimism or scepticism. It must be emphasized, however, that the percentage errors shown are not derived from a statistical measurement of degree of accuracy but represent the subjective judgement of the compilers of the reliability of their estimates. Nevertheless, on the understanding that the compilers of the estimates, familiar with the problems confronted over a period of years, do develop some "sense of feel" of the likely errors, it seems reasonable to assume that the degree of subjectivity is maintained within an acceptable limit.

Table 1 RELIABILITY OF ESTIMATES OF GROSS DOMESTIC PRODUCT

| <u>Activity</u> | <u>Reliability</u> |
|---|--------------------|
| TRADITIONAL ECONOMY: | |
| Forestry | D |
| Fishing | D |
| Building & Construction | C |
| Water Collection | D |
| Ownership of Dwellings | C |
| TOTAL | |
| MONETARY ECONOMY: | |
| <u>Enterprises & Non-profit Institutions:</u> | |
| Agriculture | B |
| Forestry | B |
| Fishing | C |
| Mining & Quarrying | B |
| Manufacturing | B |
| Building & Construction | B |
| Electricity & Water | A |
| Trade, Restaurants, Hotels | C |
| Transport, Storage, Communications | C |
| Finance, Insurance, Real Estate | B |
| Ownership of Dwellings | B |
| <u>Other</u> Services | C |
| Total | |
| <u>Private Households:</u> | |
| Domestic Services | D |
| <u>Producers of Government Services:</u> | |
| Public Administration | A |
| Defence | A |
| Education | A |
| Health | A |
| Agricultural Services | A |
| <u>Other</u> Services | A |
| Total | |
| TOTAL | |
| TOTAL ECONOMY | |
| (.. not assessed) | |

Traditional Economy

3. As is to be expected, the reliability grades of the estimates of value added for activities covered by the traditional economy are, with a few exceptions, lower than those for the estimates of value added for activities pursued in the monetary economy. The estimate for forestry, consisting as it does of the estimated value added from the collection of poles, posts and firewood, is somewhat arbitrary. The estimate for posts and poles is derived as a proportion of the value of hut building undertaken in the traditional economy - see below; and the estimate for firewood, being based on the number of hours devoted to collecting it, is also weak. The estimated value added of fishing suffers from the lack of information about fishing for home consumption; and that for water from the difficulty of obtaining reliable figures on the number of hours devoted to water collection.

Neither the estimated value added of building and construction nor that of ownership of dwellings is any more precisely based either. The former relies heavily on the estimated cost of A and B type huts and the number of such huts built; and the latter on the estimated current value of the stock of huts. All such estimates are likely to have a wide margin of error.

Monetary Economy

4. The reliability of the estimated value added of agriculture should be high. Much of the key information is obtained either from the marketing boards, co-operatives and processing factories, or through the annual Census of Large Farms and the annual Integrated Rural Survey⁽¹⁾. The estimate for forestry should also be high, for by far the largest contribution is by the Forest Department which supplies adequate data. On the other hand, that for fishing is graded at C; it relies heavily on the estimated catcher-delivered at main landing points and landings do occur at other points which are not covered.

5. The annual surveys of establishments engaged in mining and quarrying, in manufacturing, and in building and construction do provide estimates of value added of reasonably high quality, even though establishments with less than 20 employees are not covered by them but by benchmark surveys. The estimate for electricity and water is even firmer in view of the reliability of the sources which provide the necessary information.

6. Somewhat more suspect is the estimated value added of the sector covering wholesale and retail trade, hotels and restaurants. As far as the distribution activity of this sector is concerned, the method of making the estimates on output and production in urban areas relies on urban base year ratios, namely, the proportions of the total values of Kenya agricultural produce, of Kenya manufactures, and of imports that become throughputs, and the ratio of value added to aggregate throughputs. Such ratios are subject to increasing error overtime. For a similar reason, the error in the estimated value added of the distribution activity in rural areas is also high; it, too, relies on base year data and ratios. The reliability of the estimate for restaurants and hotels is limited by the difficulty of obtaining reliable figures in the base year from the multitude of small restaurants and cafes.

7. The reliability of the estimated value added of transport, storage and communications is particularly influenced - adversely - by the estimates for passenger transport by road. The assumption that the ratios of the value of output and inter-

(1) Appendix 7 contains details on these surveys and some of the other surveys referred to later in the appendix. For details on surveys not covered by Appendix 7, see the relevant activity chapters.

mediate consumption to labour costs are the same for the unsurveyed firms as for the few large surveyed firms is questionable. Hence the overall rating of C for this sector.

8. The value added of the sector covering finance, insurance, real estate and business services is dominated by that for the banks. The estimate for the banks should be reliable. Hence the B grading, despite the more doubtful estimate for real estate activity. Also rated B is the reliability of the estimate for ownership of dwellings. Annual surveys provide figures on the number of houses of various types and on their rents.

9. The estimated value added of other services is only given a reliability grade of C. A survey of services was held in 1975; nevertheless, it is always difficult, even in urban areas, to obtain reliable base year figures for the many small enterprises engaged in the supply of such services. Furthermore, the assumption that the value added of services in rural areas grows at two thirds the rate of that in urban areas is clearly circumspect. The reliability of estimated value added of persons engaged as domestic help is also graded low. There is a lack of precise information about the numbers of the various types of such persons and about their rates of pay.

10. Since the value added of producers of government services is largely accounted for by the Central Government and municipalities, and since the estimates are derived from their accounts, the rating is stated as A.

Overall Reliability

11. In Table 1, no attempt has been made to assess the overall reliability of the estimates of gross domestic product for either the traditional economy, the monetary economy or the total economy. However, if it is assumed that errors have a normal distribution, the standard error can be deduced from the range. A further assumption sometimes made is that error variances of the estimates of value added for the different sectors are independent. With such an assumption, the standard error of the estimate of gross domestic product for the whole country can be calculated as the square root of the sum of the variances of the component estimates⁽²⁾. Such a calculation has not been made since the required assumptions are unlikely to be fulfilled in practice. Nevertheless, it is assumed that component errors would offset each other. Accordingly, the estimate of gross domestic product for the whole country should have a considerably smaller error than, say, a weighted average of those of its components.

(2) See for example, A.R. Prest and I.G. Stewart, The National Income of Nigeria 1950-51, Colonial Research Studies, No. 11, Colonial Office, London, 1953.

Annual Change

12. Although for any year the estimated value added for any sector may be high or low, the high or low biases of different sector estimates are likely, it is believed, to remain relatively constant overtime. Thus the estimated percentage annual change in the value added at constant prices of a sector should be fairly reliable. This is so because of the powerful covariance term in the formula for calculating the standard errors of such a percentage. Even more reliable still should be the estimated percentage change in the gross domestic product at constant prices of the whole country.