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NATIONAL ACCOUNTING EXPERIENCES AND PRACTICES IN AFRICA

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NATIONAL ACCOUNTING EXPERIENCES AND PRACTICES IN AFRICA

Introduction

1. The purpose of this paper is to describe in broad terms the present status of national accounting in Africa and some of the past practices and experiences of African countries in this field. This may be of some help in deciding to what extent the proposals for a revision and extension of the United Nations System of National Accounts (the SNA) which is now being worked out for the statistically highly developed countries need to be adapted in order to serve the needs of the African countries.
2. The present proposals for industrialized countries on many points represent future goals which cannot be implemented with the statistics immediately available. In the same way, the adaptation of the new SNA to Africa should also aim at the future and not be solely determined by presently available data and resources. However, since the development of statistics is of necessity a slow process, a realistic adaptation of the system will also have to take the present situation into account to a substantial extent.
3. The paper is based mainly on published material available at the Economic Commission for Africa and some recent developments, therefore, may not be covered. Also, since at least some national accounts work is being undertaken in almost all African countries, available resources did not permit the study of all country practices and experiences in full detail. For this reason, there may also be other gaps in the information the paper contains.

General about national accounting in Africa

4. National accounting in Africa started to get developed in the years after the Second World War when few of the countries were as yet independent. Although it was realized that the particular circumstances

of the continent required a different approach to national accounts estimation from that used in Europe, the basic framework of the national income and product estimates of the metropolitan countries was generally applied. On the whole, the variations included in the estimates because of differences in institutional framework consisted mainly in attempts to define and include a wider range of non-monetary transactions.

5. It soon became apparent, however, that the feature of African economies which made them essentially different from those of developed countries, namely the predominance of the rural, mainly non-monetized sector was extremely difficult to cover statistically. The result has been that the more detailed national accounts of the countries of the region essentially cover the developed sectors of the economy only while the very substantial amounts of product and income originating in the rural household sector can only be included in the form of global estimates. Also capital formation and other expenditure items of the rural household sector are as a rule inadequately covered.

6. The adoption of the metropolitan approach to national accounting resulted in two essentially different systems of national accounts being utilized throughout the region. In the English-speaking countries, the approach used by the United Kingdom was applied with the modifications necessary because less basic statistics were available in the African countries. Sometimes, minor conceptual differences were also introduced which appeared necessary considering local conditions. This approach led to estimates which were presented in a framework closely resembling that of the original SNA.

7. In the French-speaking countries the system of national accounts applied in France was used with certain simplifications. The resulting estimates differed considerably both with regard to presentation and in some conceptual respects from the estimates of the English-speaking countries and from the original SNA.

8. Although new national accounts estimates according to more independent approaches have in recent years been introduced in some countries, particularly of the English-speaking group, which have generally tended to make inter-country comparisons easier, the essential duality with regard to systems of national accounts still prevails in the region. One of the main reasons for the proposal by a ECA working group to introduce an intermediate system of national accounts for experimentation in Africa was to try to bridge the gap between the two systems in use on an interim basis before the revised and expanded SNA was worked out. Some countries have already started to establish new estimates along the lines suggested in the intermediate system and the experience gained during this work is certain to become of value when the new SNA is going to be implemented.

9. No thorough evaluation of the existing national accounts estimates of African countries has been possible. It should be noted, however, that most types of economic statistics are still at an early stage of development in most African countries and that the personnel available for national accounts work is severely limited. External trade statistics and government accounts are generally available in the region on a yearly basis and are utilized to the extent resources permit in most national accounts estimates. Still, even these sources of information often have an unknown and insufficient coverage, and particularly the classifications of government accounts are frequently obscure and difficult to interpret. Also, sufficient personnel is usually not available for as full a utilization of these sources as would have been desirable.

10. Dependable current or even bench-mark year estimates of agricultural production for domestic use are not available in a majority of the countries. This certainly constitutes a serious gap in the information needed for national accounts purposes in countries with a predominantly agricultural economy. Also, although surveys of industrial production are held on an annual basis in several countries, their coverage is usually unknown and varies from year to year. Only very few countries of the region have so far carried out a real census of manufacturing or distribution which could be used as a frame for comparable current statistics.

11. Thus it is clear that although formally comprehensive and detailed national accounts estimates are available for quite a number of African countries, their accuracy is likely to be of a relatively low order. Even though they may be subject to a large margin of error, the estimates do, however, meet a very real demand and also serve to establish a framework for improvements and further developments in the future.

12. In the following, a short description will be given of the existing estimates and some of their background by group of countries using similar systems of accounts or falling within the same sub-region.

French-speaking countries in West Africa

13. National accounts estimates for isolated years were prepared for the French-speaking countries of West Africa already before independence. It was natural that these estimates should be prepared within the same methodological and conceptual framework since they were the responsibility of the same institution, namely the Haut Commissariat Général in Dakar. This framework was established by Mr. Courcier in his "Manual of National Accounting for Developing Countries" and is essentially based on the system of national accounting applied in France with certain modifications and simplifications.

14. Also after independence, essentially the same framework of national accounts estimation has continued to be used in this group of countries, which includes Cameroon, Chad, Central African Republic, Congo (Brazzaville), Dahomey, Gabon, Mali, Mauritania, Niger, Senegal and Togo. For all these countries estimates of national accounts for at least one year are available and recently estimates for a series of years have been prepared for a number of them, including Cameroon, Gabon, Mauritania, Niger, Senegal, Togo and Upper Volta. The years covered are generally 1956 and 1959 and eventually subsequent and intermediate years.

15. All these estimates are prepared in close collaboration with the French Ministry of Cooperation which puts experts at the disposal of the countries for the purpose and also usually finances the publication of the results. This goes a long way towards explaining the fact that a uniformity of approach has been maintained.

16. The differences in concepts and presentation between estimates prepared according to the so-called French system and the SNA are well-known and only need to be summarized shortly here. The presentation of these estimates is in the form of tables of uses and resources by commodity group and a "tableau économique" for the economy as a whole as well as a system of accounts for the various sectors of the economy (operation, appropriation and capital accounts). A number of important components, particularly of domestic expenditure, are easily derived from these tables and accounts. However, their main purpose is to present a system of analytical tables and accounts without putting the main stress on the classical aggregates and break-downs of the SNA.

17. There are two main conceptual differences with the SNA. The principal product total "production intérieure" excludes wages and salaries of government and other "administrations" and wages of domestic servants. There is, however, an alternative total "produit intérieur" which includes these items and therefore corresponds to the product concept of SNA. The other main difference concerns the definition of "administrations" which in addition to domestic public administration and defense also includes French administration located in the country and a number of non-profit organizations as well as some government enterprises.

18. In addition to these characteristics of presentation and concepts, the national accounts of the French-speaking West African countries have in common a number of distinctive features as far as the method of estimation is concerned. The main emphasis is put on estimates of available resources and their uses by commodity group. There is correspondence between this classification by product group and the classification of domestic product by industrial origin. This means that the industries are either defined to cover units which produce the same type of commodities or the various different commodity groups produced by each industry are specified so that a rearrangement by product group is easily done. To bring about such a classification is certainly quite difficult in practice although the fact that large industrial enterprises are few in the countries concerned would simplify matters considerably.

19. Domestic production, including agricultural production, at producer prices and imports valued c.i.f. are estimated in considerable detail and are summarized in nine basic commodity and service groups. The nine aggregate groups used until recently by the majority of the countries which apply the Courcier system are : Animal and vegetable products; manufactured food products; energy; raw materials and semi-finished products; electrical and mechanical products; textiles and leather products; miscellaneous industrial products; building and construction; services; and labour. One country, Senegal, uses the same classification but applies industry headings instead of commodity group headings and replaces the item labour by the commerce industry. The Ivory Coast applies a commodity group classification in 26 items, which mainly involves a more detailed classification of manufacturing products.

20. It may be of interest to note that the item labour included in the classification mentioned in the preceding paragraph covers all wages and salaries. Under resources, the total wage bill is included as domestic marketed production. On the uses side, wages and salaries paid by private enterprises and by that part of administrations which includes public enterprises are included under intermediate consumption, while wages and salaries paid by the rest of administrations and wages of domestic servants are considered as final consumption. This has as its effect that if total imports and total intermediate consumption are deducted from total uses or resources the resulting figure is equivalent to gross domestic product at market prices, because wages of administrations and domestic service are included.

21. However, the treatment of wages and salaries paid by enterprises as inputs in the uses and resources table is inconsistent with the treatment of this item in other tables of the system and with generally accepted international practice. In the operation account of enterprises included in the system, the wages and salaries item is treated as a component of value added, i.e. as payment to a factor of production and not as inputs. In the "tableau économique" wages and salaries are included under the broad heading "Operations in transfers".

22. Although this inconsistency in the conceptual classification of wages and salaries may not lead to mistakes in the practical use of the tables, it is clearly not satisfactory to apply different definitions of an important component of the national accounts in different parts of the system. The fact that the item labour, i.e. wages and salaries, has been excluded from the uses and resources table in the most recent estimates for Ivory Coast and Senegal may perhaps be taken as an indication that this anomaly has now been recognized.
23. In all countries using the Courcier system, the same classification in broad commodity or industry groups is used for domestic production and for imports. This implies that also for the detailed items of these two components a uniform classification has been adopted. Wherever applicable, non-marketed domestic production is shown separately under the relevant commodity group.
24. An important feature of the estimates is that trade and transport margins and customs and excise duties are estimated separately for each commodity or commodity group and for imports and domestic production. These estimates of margins are necessary in order to arrive at final sales values on the basis of producer and c.i.f. prices.
25. Available resources at sales prices by commodity group are distributed by use according to the broad categories intermediate consumption of enterprises and of administrations, final consumption of households and of administrations, fixed capital formation of enterprises and of administrations, exports and changes in inventories.
26. Abbreviated input-output tables are used by a number of the countries applying the Courcier system, in order to estimate total inputs received and total inputs produced by the various industries producing the commodity groups shown in the tables on uses and resources. As far as is known, however, none of the French-speaking West African countries have so far elaborated complete input-output tables although sufficient material appears to be available for doing so in some of the countries, as for instance the Ivory Coast.

27. Another important feature of the national accounts estimates of the countries applying the Courcier system is that they all include elaborate estimates for the sector administrations. This sector covers in addition to general government at all levels also certain "private administrations" like religious missions, labour unions, etc. It should be noted, however, that in practice the individual country estimates do not apply a uniform practice with regard to the delimitation of this sector as against public enterprises on the one hand and households on the other hand.

28. In some country estimates, certain productive activities of government, like post and telecommunications, are included in the sector administrations which is therefore equipped with an operating account in order to show the profits obtained from these activities. In other countries, all productive activities of government are included in the public enterprise sector. Another example of different practices is that religious missions are in some countries included in the household sector while they are usually treated as private administrations. The distinction between public and private administrations also is not always clear, since, for instance, social insurance institutions are sometimes included in the latter sub-sector.

29. A particular feature of the estimates is that public administrations include not only the domestic institutions but also the French civilian administrative bodies and military forces operating in the territory. The latter have their separate budgets and accounts which make possible independent estimates for them.

30. It would appear that it would have corresponded better to generally accepted national accounting practice if the foreign administrative bodies and military forces had been instead considered as extra-territorial on line with foreign embassies etc. It is in this connexion interesting to note that, in the estimates of some countries, the same treatment as given to French administrations is also extended to cover international administrations, including United Nations agencies and foreign delegations which are treated like domestic administrations instead of as extra-territorial bodies.

31. Although this way of treating foreign administrations does not affect the principal product concept according to the Courcier system, namely "production intérieure", which excludes wages and salaries of administrations, it does inflate the contribution of administrations to "produit intérieure" or domestic product by the pay of French armed forces and wages and salaries paid to the personnel of foreign administrations.

32. As already mentioned an operating account is included in the estimates of many countries, which covers the productive activities of the sector of administrations. In addition, consolidated appropriation and capital accounts are included for the sector. The same types of accounts are also shown for the sector public enterprises. These accounts are similar in structure to the corresponding accounts of the SNA. All information necessary to fill in the accounts is obtained from the budgets and accounts of the many institutions covered by the sector administrations. Because of the very considerable amount of work involved in analyzing all these accounts and because some information may not have been available at the time the estimates were made, some "short-cuts" may have been necessary in order to arrive at speedy results.

33. A set of operating, appropriation and capital accounts is also generally elaborated for modern enterprises in each of the main industry groups. The industrial sectors as defined for this purpose correspond to enterprises rather than establishments since the financial information needed to construct the accounts is available only on the former basis. The total production value of each industrial sector is broken down by product group according to the classification applied for the uses and resources table which makes possible a reclassification of production corresponding to industries producing only one commodity group.

34. Appropriation and capital accounts are shown for the household sector. The main item on the appropriation account, namely personal consumption expenditure, corresponds to the total value of goods and services consumed by households estimated for the table on uses and resources by commodity group. Some or most of the items of household

consumption are for many countries obtained are residuals, but since the basic estimates were made in considerable detail, a detailed breakdown of consumers' expenditure is automatically available. Several countries have succeeded in making available separate break-downs of consumption for foreign and indigenous households.

35. Since the classification of consumer expenditure is based on the product classification of the uses and resources tables, it does not correspond to the classification by the consumption categories shown in the SNA. A reclassification according to these categories should, however, be possible without too much difficulty.

36. Also fixed capital formation is in these accounts basically classified by type of commodity used in producing the capital goods, but supplementary classifications by type of capital goods and by type of purchaser are also available. Gross fixed capital formation by broad industry group is available in the capital accounts of the industrial sectors while a total figure for changes in inventories is included in the uses and resources table.

37. Some of the countries in this group include an estimate of the value of hut building in gross fixed capital formation. These estimates are usually made on the basis of information about the cost of building the group of huts usually required by one family which is then multiplied by a rough estimate of the number of new huts required each year, based mainly on population estimates.

38. It may also be of interest to note that, for at least one of the countries included in this group, work in connexion with petroleum research has been considered as capital formation, regardless whether it has lead to results or not.

39. All the countries make estimates of exports and imports and the various transfer items necessary to fill in a rest of the world account. However, some of the countries in the group experience considerable difficulties in arriving at reasonably complete estimates of their

external trade. This is because some of the trade is unrecorded, which is particularly the case within the Equatorial Customs Union, and because of the prevalence of smuggling. It has only been possible to make rough estimates in little detail for these unrecorded parts of imports and exports.

40. Transfer items and other financial items which are required to fill in the appropriation accounts of the various sectors are mainly obtained from government budgets and accounts, banking statistics and the accounts of large enterprises. No attempt has been made to construct a complete system of financial flows.

41. The accounts of the French-speaking West African countries include three important features which are not found in the SNA. A general survey table for the whole economy ("tableau économique") summarizes all the detailed estimates. In its most simplified form, this table shows in the heading uses and resources by main sector and by account within each sector and shows groups of transactions in the stub. More elaborate versions of the table show the transactions between the various agents in matrix form.

42. Also, as a background for the national accounts estimates proper, summary population estimates are included. In addition to break-downs by age and sex, by active and inactive and by ethnic group, classifications by industry and occupation are also included, if available. For some countries, information on educational characteristics and on medical facilities is also shown.

43. Finally, an approximate estimate of the existing capital stock is included in the national accounts for all countries of this group. These estimates usually cover a valuation of the transport network and the available transport equipment, of the dwelling stock, of industrial buildings and equipment, of mineral resources, of forest resources and of the cattle stock.

44. In all the estimates for the French-speaking West African countries the territorial or domestic concept of national accounting has been adopted as the primary one. It is recognized that for this reason certain fundamental problems concerning these economies because of the importance of the foreign sector may not have been treated in as much detail as might have been desired.

45. All estimates presented for this group of countries are on a gross basis and no attempt has been made to estimate depreciation either in total or by industry.

46. As long as national accounts estimates were prepared only for one or two isolated years the question of estimates in constant prices was not seriously considered. However, in some of the more recent estimates for some of the countries which have started to produce time series for a number of years, for instance the Ivory Coast and Senegal, some data at constant prices have been included, usually for the main totals.

47. It emerges clearly from what has been said above that the national accounts estimates for the countries considered in this section are quite ambitious, particularly taking into account their low level of general statistical development. The authors of the estimates admit that the basic data available are on the whole insufficient for as complete and detailed accounts as those presented. However, it is felt that even very approximate estimates are better than nothing, since they do give some indication of the broad outlines of the economic structure of the countries.

48. National accountants of the region have pointed out that an error of 10% in the estimate for agricultural production, which is by no means unlikely for these countries, would result in an error of 7-8% in the total gross domestic product figure even if compensating errors in other components are allowed for. In order to arrive at annual estimates which show significant variations, it is certainly required that the changes in the errors of the estimates from year

to year are far less than this. Fortunately, experience indicates that it is likely that as long as the methods of estimation remain unchanged, the errors will also remain of approximately the same magnitude from year to year. However, for some of the countries of this group there have been different teams working out the estimates for different years, which would imply that the annual estimates suffer from a considerable degree of incomparability.

Other African countries applying the French system of national accounting

49. In addition to the French-speaking West African countries there are also a number of other African countries which apply a system of national accounting similar to the Courcier system or the metropolitan French system. These countries are Algeria, Madagascar, Morocco, Tunisia and the U.A.R.

50. The national accounts of Madagascar are very similar in structure to those of the French-speaking West African countries and have been worked out by a similar team of French experts. What was said in the previous section is therefore also generally valid for the accounts of Madagascar. However, the accounts for the most recent years are now being worked out both according to the Courcier system and according to the intermediate system. Also, a special feature of the Madagascar accounts is that mechanical processing is used extensively in their elaboration.

51. Up to the time of independence rather detailed national accounts were worked out for Algeria. Time series are available for the main totals and their break-downs for the period 1950 to 1958 and more detailed estimates were presented for bench-mark years, the latest of which referred to 1957. Efforts are at present being made to re-establish the estimates on a current basis. Although the new estimates may differ from the previous ones in important respects, particularly during the transitory period while the system of basic statistics is being built up again, a brief description of the old estimates may still be of interest.

52. The French system of national accounting was the basis for these estimates and the concepts and definitions used corresponded to that system. However, with regard to presentation and detail the estimates differed in several respects from the Courcier system.

53. For the purposes of the annual estimates, a classification of value added by 25 industry groups was a central table of the system. The industry under which each individual enterprise was classified was determined by its principal activity. Total depreciation was also estimated annually and annual estimates at constant prices were worked out in some detail from the expenditure side.

54. Instead of the summary table on uses and resources by commodity group included in the Courcier system a more detailed "tableau économique" which was actually a type of input-output table was included in the estimates for the bench-mark years 1954 and 1957. In the table for 1954 both available resources and intermediate consumption were classified by 27 industry groups. In the table for 1957, on the other hand, available goods and services were classified in considerable detail by commodity group while intermediate consumption was distributed by 25 basic industry groups. In both tables, domestic production and imports were distributed by use at final sales prices including transport and trade margins.

55. Also, the detailed sector accounts were presented in a way which was different from that used in the Courcier system. Two accounts, one for expenditure and one for income, were shown for each of nine sectors, namely enterprises; households; three administration sectors, namely social security agencies, Algerian administrations, and French administrations in Algeria; three rest of the world accounts, covering France, other countries of the Franc zone and countries outside the Franc zone; and finally a sector for operations in capital.

56. The expenditure and income accounts for each of these sectors showed the transactions with each of the other sectors. The transactions were classified into purchases of goods and services (nine groups); income distribution transactions; social security transfers; taxes; subsidies; and gross earnings; as applicable to the various accounts. On the capital expenditure account, only the items increase in stocks, depreciation and net capital formation were shown. The capital income account showed the financing of capital formation. A very detailed treatment of the accounts for administrations was included in the Algerian bench-mark year estimates.

57. In the same way as for Algeria, the national accounts estimates for Morocco and Tunisia were based on the conceptual framework of the French system. There is a further similarity because also for both these countries annual estimates of the main components of the national accounts were combined with more detailed bench-mark year estimates. The annual estimates for Morocco from 1951 onwards included break-downs by industrial origin, by distributive shares and by expenditure categories, and some of the totals and components were also estimated at constant prices. For Tunisia, the annual estimates from 1950 referred to total gross domestic product only.

58. The Moroccan bench-mark year estimates for 1955 included a detailed table on uses and resources by commodity group while fairly detailed sector accounts were published for Tunisia in 1953 and 1957. Input-output tables have been prepared for both countries. The basic table for Morocco refers to 1958 and was based on an extensive industrial survey for that year. This table was rather imperfect since there was very little information available for agriculture and commerce, in particular. It was later extrapolated to 1960.

59. An input-output table was established for Tunisia for 1960 in connexion with the resumption of national accounts work after an interruption of about one year. A detailed account for uses and resources by commodity group, detailed accounts for administrations and sector accounts were also worked out for that year. Some progress

was also made towards the construction of a detailed table on financial flows. At present annual estimates on a current basis are being established. For Morocco, no estimates have been published since 1960.

60. The most detailed bench-mark year estimates of the national accounts of the United Arab Republic refer to 1954 for which year an input-output table was also prepared. The national accounting work is now linked to the five year development plan for 1960/61 to 1964/65 and a detailed system of national accounts is prepared for each fiscal year.

61. The national accounts system used in the U.A.R. is more similar to the French system than to the SNA both with regard to concepts and presentation. The economic agents operating within the country are classified in the three broad sectors enterprises, households and administrations. Each of these sectors is equipped with an appropriation account and a capital and capital reconciliation account. For the enterprise sector an operation account is also included. An account for the rest of the world is included for the economy as a whole.

62. In addition to these rather detailed sector accounts, an account for uses and resources by commodity group forms a central part of the system. A summary account on value added by industry is also included. The classification by industry differs from the commodity group classification applied in the uses and resources table but a reconciliation between the two classifications is possible.

63. The U.A.R. accounts differ from the French system in that no detailed accounts are included for the government sector. Also, detailed classifications of capital formation and consumer expenditure are not shown. A "tableau économique" is, however, included and for the purpose of their entry into this table all transactions are classified in three broad groups, namely transactions in goods and services, transactions in income and transfers and financial transactions.

64. It should be noted that although up to date national accounts figures for the U.A.R. may not be easily accessible in full detail for the most recent years, considerable national accounts work is being done in the country. The number of persons occupied with this type of statistical work is also higher than in other African countries which should ensure that the estimates are made as thoroughly as available basic statistics permit. A long term programme for the development of basic statistics is now being implemented.

Other West and Central African countries

65. Under this heading the national accounts estimates of Congo (Leopoldville), Nigeria and Ghana will be considered. There is no basic similarity between the estimates of these three countries corresponding to the similarity of the estimates of the groups of countries which have been considered so far. The countries considered in this section are grouped together only from a geographical point of view.

66. National accounts estimates for Congo (Leopoldville) were compiled annually by the Banque Centrale du Congo Belge et du Rwanda-Urundi in the decade 1950 to 1959. Although the estimates were based on the recommendations of the OEEC and the SNA considerable adjustments were necessary in order to adapt the system to local conditions.

67. For instance, the sectors into which the economy was divided differed considerably from those used in the European system. The sectors were (i) indigenous enterprises and households (ii) foreign enterprises. (iii) foreign households and (iv) government agencies and private non-profit institutions such as religious missions. For each of these sectors one current account was compiled, which covered production, income and expenditure, as applicable. A rest of the world account and a savings and capital formation accounts were compiled for the economy as a whole.

68. A consolidated table was prepared on gross domestic product by industry of origin, showing separately for several industries the contributions of indigenous and foreign enterprises. Tables were also compiled on national income by distributive shares, gross national product by type of expenditure and gross domestic capital formation by type of purchaser and source of finance.

69. The commodity flow method was for the most part used in estimating gross domestic product by industrial origin and by type of expenditure. In estimating value added by industry, inputs were deducted from gross production values. Since it was not possible to allocate all inputs by industry, some were deducted in a lump sum.

70. Estimates of gross domestic product by type of expenditure and by industrial origin were prepared annually at 1950 prices. While the expenditure side was on the whole obtained by deflating the current price figures by appropriate price indices, the product side was obtained by extrapolating base-year values by indices of the volume of production.

71. No estimates of the national accounts of Congo (Leopoldville) have been made after independence, but there are now plans for starting such estimates in the near future.

72. The method of national accounts estimation at present used in Nigeria does not permit the construction of an integrated system of sector accounts. The only sector accounts at present published are the combined account for all public authorities and the rest of the world account. The rest of the estimates consist of detailed break-downs of gross domestic product by industry of origin and by expenditure categories following the general framework of the standard tables of the SNA.

73. The main domestic product total is estimated from the output side and the estimate of gross domestic expenditure is to a considerable extent dependent on the output estimate. In effect, the method of national accounts estimation employed is a variant of the commodity flow approach.

74. Because of lack of basic information, the income approach to national accounts estimation has hardly been developed at all. It is, however, hoped that the social and economic surveys which are now rapidly expanding will provide data which could be used for estimates according to this approach in the near future. The results of these surveys are already now being used for independent estimates of private consumption expenditures and should also lead to much needed improvements in the estimates for the agricultural sector.

75. A greater accuracy in the estimates for the manufacturing sector and a more detailed elaboration of the commodity analysis will be possible when the improvements of manufacturing statistics which are now under way are finalized. On the whole, it might be said that a classification of the various components of the present estimates according to reliability which has been made by the estimators themselves indicates that in general an improvement of the accuracy of the estimates is more urgently required than their extension. From this classification it may be deduced that the total gross national product estimate at present has a margin of error of round about 15% at least. This also gives an indication of the margin of error which may be expected to exist in the estimates of other African countries whose level of statistical development is the same or lower than that of Nigeria.

76. Estimates of gross domestic product by branch of activity and by category of expenditure are also worked out at constant prices. The methods adopted in preparing these estimates are closely related to the methods used in estimating the corresponding items at current prices. Three principal methods are employed in deflating product by branch of activity, namely (i) value added at current prices is deflated by an index of related prices or of related wage-rates, (ii) value added in the base year is projected by related quantity indicators, and (iii) quantities produced are valued for each year at base year prices. The break-down of product by expenditure categories has been deflated mainly by applying related price indices to the various components at current prices.

77. No articulated system of national accounts has as yet been prepared for Ghana. The set of tables published annually in the Economic Survey of the Ministry of Finance include only a break-down of expenditure on gross national product together with detailed classifications of consumer expenditure and gross capital formation by type of asset, all at current prices.

78. An unusual feature of the estimates for this country is that the basic approach of estimation was from the expenditure side, and the nation-wide household expenditure survey of 1961/62 essentially provided the framework around which they were built. The consumer expenditure estimates were obtained by multiplying per capita expenditure figures from this survey by population figures extrapolated from the census of 1960. Of course, other parts of the gross domestic expenditure estimates were based on supplementary data like accounts for all levels of government, industrial statistics, statistics on vehicle registration, etc.

79. Data are so far not available which allow an estimate according to the income approach or an independent estimate from the product side. The concepts and definitions applied correspond as closely as possible to those of the SNA.

80. A system of regular industrial enquiries is at present being built up in Ghana and as the results from these surveys become available an extension of the national accounts estimates should also become possible by a more extensive use of the commodity flow method.

English-speaking North and East African countries

81. The countries grouped together under this heading also do not apply entirely similar systems of national accounts estimation, although the similarity of methods between some of them is rather high. The countries are Sudan, Kenya, Uganda, Tanzania and the countries which were part of the previous Federation of Rhodesia and Nyasaland (Malawi, Rhodesia and Zambia).

82. National accounts estimates were first established for the Sudan for the year 1955/56. A combination of the product and the expenditure approaches was used and both an input-output table and an economic and functional reclassification of government accounts were made available. From 1962 onwards annual estimates have been prepared of the most important break-downs at current prices. No system of articulated national accounts has as yet been prepared for Sudan.

83. The terminology and classifications used diverge to some extent from international standards. One example is that export duties are treated as direct instead of as indirect taxes. It might be noted that on this particular point several of the countries in this group have adopted a similar treatment. Another point on which the Sudanese estimates diverge from international recommendations but are not alone in this respect concerns the treatment of African-style housing, which in rural areas and towns with less than 5 000 inhabitants is included as private consumption rather than as capital formation.

84. A second input-output table was prepared for 1960/61. No distribution of imports by sector of origin has been possible in the input-output tables for Sudan and inputs of imported raw materials etc. as well as final consumption of imported goods have therefore been entered in the tables as originating from the category "imports of merchandise" which occupy one line in the tables.

85. An interesting feature of the Sudanese estimates is that value added by industrial origin is estimated by means of individual accounts for each industrial sector. On these accounts, which are not published, gross production value at market prices is distributed by intermediate and final uses. Sales to the local market are valued at market prices and exports are valued f.o.b. for the purpose of the accounts. These prices therefore include transport and trade margins which are deducted as costs on the various accounts and credited to the sectors transport and commerce.

86. Since imports of raw materials are also entered at c.i.f. values on the accounts, additional amounts for the transportation and handling of these items are included on the debit side. In addition, purchases from other domestic sectors and indirect taxes are also charged to the accounts. Gross value added at factor cost then emerges as the balancing item on the debit side.

87. The main purpose of establishing these accounts is to obtain the necessary information for the construction of input-output tables. However, it has also been found that they are a great help in making possible consistent estimates of gross domestic product from the output and the expenditure sides.

88. Estimates of gross fixed capital formation are made annually in considerable detail. From 1961, income, expenditure and saving of general government, government enterprises and the private sector are estimated. The basic estimates refer to the various parts of the government sector and total income and expenditure of the private sector are obtained as residuals.

89. Annual national accounts estimates have been prepared for Kenya since 1947 and a complete revision goes back to 1954. The basic concept is gross domestic product at factor cost which has been estimated from the output side. In addition, quite detailed estimates are available of gross fixed capital formation by type of capital goods and by type of purchaser. The commodity flow method has been applied to some extent in arriving at these estimates. Estimates at constant prices have not been prepared.

90. No complete system of national accounts for Kenya is available at the present time. However, gross factor incomes, current transfers and direct taxes are distributed by the three main sectors households (including self-employed, non-profit institutions and unincorporated enterprises), incorporated enterprises (companies) and public authorities (including government agencies and public trading organizations). This constitutes, in effect, a set of income appropriation accounts for the sectors mentioned.

91. As is usually the case for African countries, the data on subsistence production are weak and the estimates for the subsistence sector are therefore shown separately in the analysis of gross domestic product by industrial origin. It is estimated that approximately 90% of agricultural production falls outside the recorded monetary economy.

92. All paid rents (or rental surpluses) are considered as factor income originating in a special rental industry. Imputed rent of owner-occupied non-residential buildings is also included in this sector. The value added of the real estate industry covers only wages and salaries and operating surpluses of businesses engaged in managing, buying, selling and letting properties.

93. Value added of financial intermediaries is put equal to the compensation of employees and provision for depreciation. Although no imputation of service charges has been made, it is assumed that value added estimated in the way indicated is approximately equal to the balance between interest received and interest paid by the industry.

94. Export taxes as well as taxes levied by district councils on the production of certain commodities are considered direct taxes. These taxes are, however, shown separately so that they may be treated as indirect for purposes of international comparison.

95. It is of interest to note that recently work was started in Kenya on estimates which would make it possible to construct the table on uses and resources by commodity group and other central tables of the intermediate system. Also the re-classification of government transactions according to economic and functional categories is already well established and is now being extended to cover local government.

96. In Uganda, the product originating in the public sector and in private non-African enterprises of all kinds is estimated as the sum of compensation of employees and operating surpluses of enterprises. The first element is based on information from the annual enumerations of employees in the various activities and the second on statistics

of taxed profits. The product of African agriculture is calculated on the basis of tribal diets compiled during the 1956 World Health Organization nutrition survey. Quantities per head are assumed constant and are multiplied by producer prices. The product of African enterprises in other fields is also obtained by multiplying quantities produced by appropriate prices.

97. Gross domestic product by industrial origin estimated according to the methods indicated above is available from 1950. Although no complete estimate has been attempted from the expenditure side, annual estimates of gross fixed capital formation by purchasing sector and by type of asset are presented.

98. Up to now very little has been known about the manufacturing industry and particularly about the raw materials used in this industry. It was therefore also difficult to make full use of the very good and detailed external trade statistics for estimates of domestic product and expenditure by means of the commodity flow method. However, an industrial survey is now to be held in the near future, which will take into account the requirements for national accounts calculations. As soon as the results of this survey become available a revision of the national accounts calculations will be carried back to 1960.

99. In 1964, the first estimates at constant prices were published. They referred to gross domestic product by industrial origin at 1960 prices and covered the period 1954 to 1962. An economic analysis of central and local government accounts is now under way and will be included in the general revision of the estimates following the industrial survey. Also, a separate balance of payments statement for Uganda is now being worked out. Similar statements will also become available for Kenya and Tanzania. Previously one joint balance of payment statement only was available for the three members of the East African Common Service Organization.

100. Annual national accounts estimates for Tanganyika have been prepared since 1952. In the earlier estimates the production approach was applied in arriving at gross domestic product by industrial origin and by expenditure categories which are the main break-downs. At present the production approach is mainly used to calculate the net output of agriculture while the income approach is used for the other sectors. In the same way as for the estimates of Uganda, the remuneration of employees is estimated from annual enumerations of their number combined with data on wages and salaries. Profits are derived from tax statistics or from profit and loss accounts submitted by the enterprises.

101. Separate figures are shown for the monetary sector and for the subsistence sector. For the latter, estimates of the various types of agricultural subsistence production are shown but no complete account for rural households has been established. Although a complete system of articulated national accounts for the economy as a whole is not presented, a number of sector accounts similar to those of the SNA is included in the most recent estimates. These include a domestic product account, a rest of the world account which has been divided into a current and a capital reconciliation account, a national income account and an appropriation and a capital reconciliation account for general government.

102. In the textual description of the most recent estimates it is stated that no attempt has been made at constructing an input-output table because the degree of industrial inter-dependence has been found to be very small. Processing stages are few and very little of the output of any sector (except services) goes to other sectors for further processing.

103. Like in Kenya, rents are included in a separate industrial division, because information is not available which allows the deduction of rents from current costs and their consequent inclusion in the operating surplus of the paying industry. The net output of banks and other financial institutions includes imputed charges equal to interest payments.

104. Again, in the estimates for Tanganyika like in those for Kenya and Uganda, export taxes are considered as direct rather than indirect taxes. Like in the estimates for Uganda, the value of rural hut building and some other types of capital formation in rural areas are omitted from the estimates because of lack of information.

105. A first attempt at an estimate of gross domestic product by industrial origin at constant prices was made for the period 1960 to 1962. Gross output of agriculture and mining were calculated at 1960 prices and inputs were deflated by means of whatever information was available. For most of the other sectors, an experimental attempt was made to deflate the components wages and salaries and profits. It was recognized that the deflation of profits is virtually a theoretical impossibility and many very complex practical problems were also met in deflating the product of the private sector outside of agriculture and mining.

106. A consistent series of official national income estimates for the Federation of Rhodesia and Nyasaland is available for the years 1954-1963. Particularly in the final volume containing the most recent revised estimates for this period, which was prepared after the break-up of the Federation, great emphasis was given to tables for the individual territories which now have become Malawi, Rhodesia and Zambia. Tables showing national income by income shares; expenditure on gross national product at current and 1954 prices; gross domestic product by industrial origin and type of income; a number of accounts analyzing many aspects of central and local government income and expenditure; several tables analyzing depreciation; gross fixed capital formation by sector and type of asset and by industrial use both at current and 1954 prices; increase in stocks by sector and by industry at current and 1954 prices; earnings and employment of Africans; and a summary of transactions of African households are all available separately for the three territories or countries for the whole period 1954-1963.

107. An articulated set of appropriation accounts for the personal sector (excluding rural household subsistence income and expenditure but including non-profit making institutions, life insurance funds, pension and trust funds); government enterprises; public corporations; and companies could be worked out at the Federal level only. A completely new statistical framework of enquiry will have to be introduced for the individual countries in order to obtain the required information for the establishment of appropriation accounts.

108. The concepts and classifications used were generally in accord with United Nations recommendations. The main divergences were that no imputations were made for service charges of banks and other financial intermediaries, government pension fund transactions and rent of government-owned buildings. Rental income of companies and government was classified in the real estate industry and all transfers were treated as current transfers.

109. Estimates of gross national income by type of income were prepared in great detail utilizing all available information on income transactions. The income share approach was utilized for the estimates of gross domestic product by industrial origin. The estimates of expenditure on national product was arrived at by a combination of the commodity flow and expenditure approaches.

110. The estimates of production for own consumption of the African rural household sector were arrived at as the product of assumed per capita consumption figures valued at current producer prices and population figures. These estimates were therefore very rough and have been subject to considerable revisions.

111. The product approach has now been introduced for the estimates of mining and manufacturing in Rhodesia, utilizing the annual census of industrial production. Efforts are also being made to arrive at estimates of uses and resources by commodity group and to introduce the commodity flow method for a wider range of the product estimates.

112. Estimates of gross national product and its expenditure components were also prepared at 1954 prices mainly by applying appropriate price indices to the detailed components.

113. Although the estimates for the Federation of Rhodesia and Nyasaland were the most detailed and well documented of all African national accounts estimates, the producers of these estimates themselves declare that their quality still leaves much to be desired. In spite of the fact that all efforts have been made to improve the quality and accuracy of series presented, many of them can only be described as fair and some as poor. This is because statistical enquiry in Central Africa is still in an early stage of development. The same can be said with even greater justification about other parts of the continent. Considerable revisions and improvements of the existing estimates must therefore be expected in the future and the frameworks at present used for national accounts estimation in the various countries of the region cannot be considered as rigid but could easily be adjusted.