3

THE STATISTICAL MACRO-ECONOMIC FRAMEWORK NEEDED IN DEVELOPMENT PLANNING IN AFRICA

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I. SPECIAL PROBLEMS OF NATIONAL ACCOUNTING IN AFRICAN CONDITIONS

IT is obvious that good planning calls for high-quality data relating to all aspects of the economy and that all social and economic statistics are relevant. Development policy cannot be made in a vacuum and the planner must possess a knowledge and understanding of what is taking place in the country concerned and of the repercussions of his decisions. At the same time it is most important to remember that in Africa, as everywhere else, the number of problems involved in development planning is infinite and a complete understanding or knowledge is impossible. The problem therefore is to decide what statistics are essential at present, for the preparation and implementation of development plans in Africa. In the particular context of this paper: can national accounts [1] be used in development planning in Africa or are other economic statistics more useful? Should it be decided that national accounts have an essential role to play in the statistical policy of African countries, it is then necessary to consider what is the most suitable design for presentation of African national accounts.

Two main objections to national accounting in Africa can be identified, one theoretical and the other practical:

(*a*) The national income concept is based upon a market economy. In primitive economies, where the majority of transactions are effected by direct barter and production is mainly for own consumption – in short, subsistence economies – national income concepts have severely limited applicability. Estimates for such inarticulated economies can have but little economic meaning.[2]

[1] Following accepted tradition, 'national income' or 'national accounts' is used in this paper as a shorthand expression for the entire range of estimates falling within the field of interest of the International Association for Research in Income and Wealth.

[2] See, e.g., Daniel Creamer, 'Uses of National Income Estimates in Underdeveloped Areas'; S. Herbert Frankel, 'Concepts of Income and Welfare in Advanced and Underdeveloped Societies with Special Reference to the Intercomparability of National Income Estimates', and Frederic Benham's comments

(*b*) Lack of basic statistics. 'It must be realized that a figure purportedly representing national income is almost meaningless so long as the basic statistics from which it is derived are vitiated by serious gaps and shortcomings. It would, therefore, be more useful to utilize existing resources for improving primary statistics rather than for carrying out complex operations on the basis of inaccurate data.' [1]

As far as the theoretical objection is concerned, it should be pointed out that there is no country in Africa with a pure subsistence economy. An important aspect of all African development planning is the relationship between the monetary and the subsistence sectors of the economy. There is no doubt that, at least for the monetary part of the economy, national accounts have an important role to play. The problem is whether a common denominator between the subsistence and market-sectors can be found.

To the practical objections it may be said that there are few countries where the basic statistics for national accounts are fully satisfactory. African statistics, *for the dynamic or key sectors of the economy* (the public sector, large corporations, foreign trade, etc.), are basically as good as in many more advanced economies, or can be made so in a short time without much additional effort. Of course, in Africa, as in many other underdeveloped countries, comprehensive and reliable national accounts must remain for some time a distant ideal.

It is of the utmost importance, however, in developing a

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on the last Paper. International Association for Research in Income and Wealth, *Income and Wealth Series III*, Bowes and Bowes, Cambridge, 1953. John Friedmann in the Introduction to the Study and Practice of Planning, *International Social Science Journal*, Vol. XI, No. 3, 1959, UNESCO, considers that the existence of a societal as opposed to a communal structure (monetized economy, etc.) is among the principal conditions necessary for planning.

[1] *Toward the Economic Development of the Republic of Viet-Nam*, United Nations Publication, 1959, ST/TAO/K/VIET-NAM/1; ILO/TAP/VIETNAM/R.4; FAO/Report No. 539. It was stated in the above-mentioned report of the Economic Survey Mission that 'The compilation of national income estimates and the establishment of the initial phases of a national accounts system are the only projects of a synthetic character envisaged under the programme. These were included (only) because the Temporary Statistical Commission was informed that they were regarded as important in high circles.' It appears that the United Nations Mission to Viet-nam did not consider national accounts useful in development planning, and recommended that the statistical programme should be confined exclusively to projects which will produce statistics that are indispensable to the country (e.g. detailed agricultural statistics).

system of data for a country to have a blueprint or picture of a fairly complete statistical system to be developed in the future. Such a blueprint should be drawn up in the light of the principal gaps in existing statistics and of the relative priorities of obtaining the various missing series, and it should include an appraisal of the accuracy and usefulness of the data already available, so as to avoid duplication, as well as to improve the quality of existing data.[1] Even if national accounts were of limited value in development planning in Africa, and I hope to prove that it is not so, concern with the development of a comprehensive framework of national account statistics will, for its part, lead the way to a more orderly and balanced development of the basic economic and social statistics themselves.

We are faced, however, with choice between attacking on a wide front or storming key positions. Are the 'conventional national income' tables analytically more appropriate for development planning in Africa or are sectoral accounts analytically more useful? In other words, should the determination of the *size* of geographic and domestic product, national income and other aggregates be given the first priority amongst data essential for development planning in Africa *or* is the *functioning* and *structure* of the economy more important. The differences between the alternatives are, of course, mainly differences in approach or in emphasis, as in the long run both alternatives will lead to the same result – a co-ordinated picture of the economy provided by a system of accounts.

In dealing with these problems of national income methodology for African countries there are two considerations which should be taken into account at the outset. The first is the political structure. In January 1957 only seven African states were formally independent[2] and only one (Ghana) was effectively African controlled. More than 70 per cent of Africans lived under white rule. By 1st January 1961 about 75 per cent of Africans will be formally independent or effectively controlled by Africans.

This rapid rate at which independence is being achieved by African states has an obvious bearing on our problems. 'For unless we have political independence we cannot have the means

[1] *Economic Bulletin for Asia and the Far East*, Vol. VI, No. 3, November 1955 United Nations Publication.

[2] Morocco, Tunisia, Libya, Egypt, Sudan, Ethiopia and Liberia.

of shaping our economic, social and industrial future. Thus political independence is not an end in itself but a means to that end. Having achieved political independence our next objective is to consolidate that independence and lay the economic foundation to sustain our national independence. This is the reason why we are now embarking upon this five-year plan of development.' [1]

The development timetable in today's Africa is determined not by economic but by political factors. The technicians' or advisers' task is to supply economic facts in a form which will be understood by policy-makers and in good time for them to be taken into account when decisions are made. We have to produce in accordance with the Government's timetable a simple tool, one that policy-makers will feel disposed to treat not as a work of art or as a symbol of independence, but as a tool in the service of economic and social development. Moreover, information must be supplied in time to affect policy decisions. (In development planning to be wrong is permissible; what is not permissible is to be unaware.) The first consideration should, therefore, be the speed with which relevant data can be prepared and released.

The second consideration must be the statistical resources available as compared with actual needs. The statistical resources in Africa are subject to severe limitations, arising both from the difficulties inherent in statistical reporting and measurement and from the shortage of qualified staff at all levels. The statistical reporting problems are a function of the economic and social situation. While it is difficult to generalize, the following brief list may be suggestive of the kind of problems which arise:

1. The great mass of population continues to live by agriculture, still applying methods that are centuries old, with the consequences of limited productivity and income. Even more than in other underdeveloped countries, farming, hunting and grazing predominate in Africa. The social organization for carrying on agricultural activities varies considerably from area to area and even sometimes from tribe to tribe. In certain areas nomadic forms are prevalent, in others agriculture is more settled; the characteristic division of labour within the economic unit

[1] Speech by the Prime Minister of Ghana, the Hon. Dr Kwame Nkrumah, delivered at the opening of the debate on the Second Development Plan on 4th March 1959.

(household, extended family, village, etc.) will vary from place to place; various communal forms of agriculture exist.

2. In traditional agriculture output is produced primarily to satisfy the needs of the economic unit directly (subsistence economy), although surpluses may be bartered or sold.

3. Different population groups with widely varying economic standards exist side by side. The existence of a highly organized economic sector alongside tribal societies may inhibit incentive and prevent the transfer of skill and knowledge. On the other hand, especially in the newly independent African countries, the demonstration effect is an important factor. In addition, as modern communication media are bringing the way of life of richer countries closer to the population of Africa, the international demonstration effect tends to create increased demand both for social services and for private consumption.

4. Communications are developed mainly along the coast. In many cases the communications with the inland communities within a single country are primitive or even almost non-existent. During the rainy seasons whole communities may be isolated, and the movement of persons and trade may be seriously interrupted. This absence of a permanent network of market relationships causes considerable regional and seasonal price variations and differentials. In certain countries a national price system does not exist.

5. There may be strong non-African economic interests and close commercial links with ex-metropolitan markets. The African trade, especially in the area south of Sahara, is directed almost entirely towards other continents and is concentrated in the hands of nationals of the former metropolitan powers. By contrast the interregional and inter-African trade is not highly developed.

6. The knowledge of resources and potentialities in Africa is inadequate.

7. There is a comparatively low ratio of population to arable land. Africa in general does not suffer the extreme pressure of population on resources that characterizes many parts of Asia.

8. Low reproducible capital per head of population is linked with the need to import most of the manufactured articles required and dependence on the export of a limited number of commodities. The volume of private investment is low in relation to capital requirements.

9. There is a low literacy rate, shortage of entrepreneurial skill whether at the level of small undertakings or that of the management of large enterprises, shortage of trained administrators at all levels and desperate shortage of economists and statisticians.

10. The public sector plays a crucial role in the whole development process.

II. AGGREGATE ACCOUNTS OR SECTOR ACCOUNTS?

It is an accepted fact that the co-ordinated picture of the economy provided by a system of accounts forms a more convenient and useful basis for economic reasoning than separate tables focusing attention mainly on totals like national product or national income with little emphasis on the interrelations of economic transactions. As the presentation of the statistics in an integrated accounting framework has obvious advantages, the pertinent issues are whether most of the countries in Africa are in a position to prepare estimates along these lines and, if so, what general form the accounts should take?

Clearly aggregate *and* sectoral accounts would be more useful for development planning than sectoral accounts alone. 'Aggregate and sectoral accounts are of first-rate importance in the statistical policy of an underdeveloped country, because *together* they form the least unreliable method of providing the administrator with a sense, by no means commonly found, of economic proportion, and with a logically consistent intelligence report without which exaggerated notions of relative sizes tend to linger as an obstacle in the way of sound judgement.' [1]

At the same time it may be questioned whether the usual economic aggregates can today be used for policy purposes. It is obvious that if the estimates are limited to monetary transactions, the aggregates cannot be used as exact measures for purposes of comparing economic welfare. On the other hand, the practical statistical problems of estimating subsistence output have not yet been solved. Field surveys are most useful and should be encouraged, but so long as the universe is not known (due to the absence of population and agricultural censuses,

[1] Ian G. Stewart, *The Review of Economic Studies*. Cambridge, 1954/55, Vol. XXII (3), No. 59. See also D. Seers, 'The role of national income estimates in the statistical policy of an underdeveloped area', in the same *Review*, Vol. XX, and the controversy which followed thereafter (ibid., Vol. XXI and Vol. XXII).

etc.) the estimates cannot be reliable. Nor have the theoretical issues involved yet been agreed upon. Is there not a danger that if we concentrate on aggregates compelling the African countries to elaborate their statistics in that direction the quality of the estimates will suffer considerably? In my opinion in many countries such overambitious schemes of statistical elaboration will lead to estimates that as a guide to policy may be actually misleading.

What is the user's point of view? In development planning the emphasis has increasingly shifted from creating wealth, as such, to creating the capacity to create wealth or the 'infrastructure' for wealth. This infrastructure is partly economic, but also partly social. In so far as economic development depends upon the mobilization of people as well as material resources, the attention of the planners is directed to those programmes designed to improve the ability of people to contribute to the development process.

But this balanced and integrated social and economic development is not, as in some of the more developed economies, translated into aggregate 'targets'. Even the most elaborate development plans in Africa do not directly relate the plan to certain aggregate results like a yearly increase of so many per cent in output, employment, investment or consumption. The planning function has rarely developed into an attempt to formulate an overall plan.

At present it is generally limited to establishing priorities in certain items of public expenditure of a 'developmental nature' – the drawing up of programmes, in quantitative terms, for direct Government investment, expenditure or projects encouraged by Government. In most cases the development plans are really aggregations of individual projects being undertaken, or to be undertaken, by individual ministries. In some cases there is a further breakdown of individual projects into estimated requirements of capital equipment, raw materials, locally produced and imported, skilled labour, unskilled labour, depreciation, etc., using in some cases as a guide the coefficients of more developed economies from which technology is imported.

Under those conditions the method of commodity balances – for all commodities of major importance – used in a flexible manner, is probably the simplest technique for securing the best

allocation of scarce resources, priorities for development, indication of bottlenecks, etc., especially if we remember that in an open economy bottlenecks can be broken by timely imports. This timing of imports for development planning assumes a special importance in most African countries because of the considerable time-lag between order and delivery of goods from far-away markets and the inadequacy of transport facilities.

I shall now attempt to show that, under existing African conditions, the sector accounts approach seems to be the best solution to some of the data collection problems.[1]

III. THE CONSTRUCTION OF SECTOR ACCOUNTS

There are two strategic sectors relevant for short-run development planning in Africa – the public sector and the external transactions sector – and it is believed that 'for some time to come African countries are likely to retain their basic characteristics of open economies largely dependent on export trade and the activities of the public sector'. The two sectors are strategic in the sense that they largely account for both the short-run fluctuations in the level of activities and the growth of the money economy in the long run.

In both these sectors much basic data already exist. If statistical resources are devoted to strengthening and extending these statistics, simple models can be constructed in time to assist in the formulation of more informed policy judgements. Those sector accounts will be adequate to describe, for the purposes of development planning, the essential features and relationships in the structure of the economies of African countries. At the same time sector accounts can serve as a convenient source of information on trends in other sectors and can also indicate the direction in which statistical information needs to be amplified in order to satisfy other urgent analytical needs.

1. *The Public Sector*

The predominant role of the public sector in development planning in underdeveloped economies has received considerable attention and is well known by now. 'It is not merely that

[1] As already mentioned, the statistics called for in the development planning are not limited to purely economic data, but cover every aspect of the country's life. National accounting does not cover all economic data required, as, e.g., the shortage of skilled manpower is at least as important as other shortages. But even budgeting for skilled manpower, so essential in Africa, can take as a starting-point the information included in public sector accounts.

direct Government and Government-sponsored activities exert, because of their relative size, a major influence in the transformation of the traditional economy into a modern economy; the fact is, given the lack of conditions necessary for a more spontaneous growth, many African Governments have no choice but to perform the functions of an entrepreneur in directing domestic savings into productive investment and even in assuming responsibilities of management. Both as employers of labour and as sources of demand for domestic products, Governments are in many instances in a pre-eminent position. Many of the facilities such as transport, water supply and power – the so-called infrastructure – are in urgent need of developmment for any considerable economic growth to take place, and in these fields Government initiative is essential.' [1] But in addition to providing the infrastructure, the public sector, being the spearhead of development, has to undertake investment projects which the private sector is unable or unwilling to undertake.

Our public sector concept is therefore larger than the 'General Government' definition used in the United Nations System.[2] It includes in addition to public sector agencies – agencies responsible for the organization for the community of common services which cannot otherwise conveniently and economically be provided and acting as the administrative agencies for the economic and social policies of the community – also public enterprises – units producing goods and services for sale but owned or controlled by public sector agencies.[3]

This sector concept seems to be more useful for development planning in Africa than the traditional one adopted in the United Nations System for the following main reasons:

1. The emphasis on the whole public sector provides a measure of the total volume of demand for goods and services originating in public sector, which can be to a large extent centrally planned and controlled.

2. The income redistribution function of the public sector is again seen as a whole and permits more explicit and quicker decisions.

[1] *Economic Survey of Africa Since 1950*, United Nations Publication, New York, 1959 (E/CN.14/28).

[2] *A System of National Accounts and Supporting Tables*, United Nations Studies in Methods, Series F, No. 2, New York, 1953.

[3] For more detailed definitions, etc., see Appendix A.

3. As the motivation of public sector production and trading activities is different from the private sector approach, the planner has obviously to separate them from the private enterprise sector.

4. The role of public sector agencies and public sector enterprises in the nation's gross capital formation is predominant in development planning (e.g. in providing the infrastructure).

5. The crucial role of the public sector acting as financial intermediary can be examined. In addition to playing a direct part in the gross capital formation, Government also acts as financier of the part played by the private sector, through grants and loans, stimulating in this way gross capital formation. In African countries, where there is no developed capital market, this activity is extremely important for economic development. As will be explained later, it is suggested that a financial transactions account be incorporated in the traditional national accounts.

6. A consolidated public sector account permits the analyses of the inflationary pressures associated with development activities.

7. The public sector account permits the use of the indirect method of estimating some aggregates of the private sector about which direct information is not available in time for development planning. In addition, by suitable analysis of the past years, the nature of the economic reactions to be expected from the private sector can be made clear.

8. In the public sector the basic information is generally available in time and is reliable.

9. The statistical presentation of the public sector in one statement as proposed here, i.e. by the economic character and within certain limits, by the purpose or function of the expenditure and the major recipients of public sector transfers or loans, is in line with modern budgeting. In addition there are two other general considerations, which reinforce the argument:

(*a*) It is primarily the change in the activities of the public sector and not these activities *per se* which are instrumental in bringing about modifications in the economy[1] and

[1] At the same time it must be remembered that from a longer term viewpoint it is also important to study the aggregate, not only the yearly change or marginal activities of the public sector and their bearing on the structure of the economy and output.

(*b*) Many African countries will shortly undergo the profound change from a colonial type budget to a budget more suitable to an independent country.

I firmly believe therefore that the public sector statistics will yield high dividends per unit of professional skill employed and should be given first priority in the national accounts field.

It is suggested that the principles as elaborated in, e.g., United Nations Publication *Manual for Economic and Functional Classification of Government Transactions* (ST/TAA/M12; ST/ECA/49) be applied in African countries with some additional breakdowns (e.g. distinction should be made between Africans and foreigners, between local and foreign enterprises, and export income should be shown as a separate item).[1]

2. *The Export Sector*

In the countries of tropical Africa the mainspring and dominant feature of the modern economy is the production of primary products, either agricultural or mineral, for export. On the other hand, a large proportion of income derived from exports tends to be spent directly on imports because there is little or no local production to satisfy the demand of the recipients of such income. Export proceeds and Government expenditure are the principal factors determining the level of income and hence the level of investment in the monetary economy of African countries. Since public sector activities and the close link with the level of export income were referred to in the preceding section, I will try to show in this section that the foreign trade statistics, together with the public sector accounts, constitute the backbone and starting-point in national accounts as required for development planning.

The exports of African countries consist mostly of agricultural and mineral products. Those exports can be easily traced to particular activities, supplying the raw materials (cocoa, coffee, rubber, cotton or sisal) and the value of exports can

[1] Export income flowing into the public sector consists of tax income (export duties, royalties, etc.) and income from services (railways, electricity). The customary classification in the national accounts of taxes as between direct and indirect and inclusion of export duties amongst indirect taxes will probably have to be reconsidered and changed to a criterion more applicable to the fiscal realities of Africa. The incidence of export duties, as imposed in Africa, falls almost wholly upon the domestic producer and these duties thus have the effect of a direct tax on income. The inclusion of export duties amongst indirect taxes thus gives a distorted picture of the difference between estimates at market prices and at factor cost.

immediately be estimated from trade statistics. Obviously the value includes transportation, trading and in certain cases processing. The traditional system of national accounts does not distinguish between products of transportation, commerce and other industries which are partly for export and partly for domestic consumption, but if the sector approach is introduced the contribution of processing and service industries to the export sector can be assessed. In other words, the expenditure of the export sector will consist of purchases from public sector (transport, electricity), purchases from other enterprises, payments to households, imports, compulsory payments to the public sector (export duties, etc.) and the balancing item. The receipts side will register local sales and exports. The objection may be raised that in those countries where processing industries are important the export sector approach would present considerable difficulties; for example, how could the export values contributed by mining and by mineral processing industries be distinguished? But if the processing industries are important, sufficient statistical information generally exists (in company's accounts, etc.) to make the necessary estimates; on the other hand, if processing industries are not important, no great harm is done if a consolidation is used.

Let us consider now the expenditure side of the export sector account. The purchasing power derived from exports stimulates the economic activity, but the extent to which a given volume of export income brings about a further enlargement of the exchange economy depends mainly on the manner in which it is distributed. Export proceeds can be broken down into revenue of the public sector (compulsory payments and public sector enterprises), wages and salaries, other purchases and producers' profits. For the purpose of analysis it is necessary to classify the recipients of income according to their patterns of expenditure, as the external impulse effect plays a part only in so far as the expenditure is devoted to purchases of domestic goods and services. We have, therefore, to divide the relevant items into African and non-African and to assess the chief components of income received by each category, remembering that transfers abroad (payments to foreign factors of production, remittances, etc.) are permanent leakages and financial investment abroad (by Marketing Boards, etc.) temporary leakages.

This sector account presentation has an additional advantage

for development planning in Africa. One of the main criteria for the determination of the economic desirability of a development project is the value added or saved in foreign currency.[1] The necessity of promoting exports and the desirability of substituting home-manufactured products for imported products by increased use of domestic resources is included in most development plans. What is not always realized is that, especially in Africa, some of the home-manufactured products do contain a high proportion of imports, and, therefore the value saved in foreign currency needs critical assessment.

In order to estimate the saving in foreign exchange involved in replacement of imports – foreign exchange saved – it is necessary to estimate two components:

(*a*) Foreign exchange expenditure on identical goods which would otherwise be imported.

(*b*) *Less* foreign currency components of all expenditures involved in home production (depreciation, materials, power, transport, services, etc.).

Once the saving in foreign currency is determined – or value added in foreign exchange gained in case of exports – the cost of such saving can be estimated. The cost of foreign exchange saved – or gained – is the ratio of foreign exchange saved – or gained – to net expenditure in local currency involved in production. By net expenditure in local currency is meant total expenditure *less* foreign currency component of all expenditures.

In other words, the determination of the value added in foreign exchange requires a rudimentary input-output presentation. The import component of a given final product will, in due course, be affected by the development of locally produced intermediate products. The value added is thus not a constant but a variable dependent upon development of other industries.

It is suggested, therefore, that the conventional enterprises account be broken down into exporting enterprises and other

[1] The concept of value added in foreign exchange should not be confused with the concept of value added in national income. As known, the national income concept attempts to measure the increase in the value of a product, irrespective of whether a gain in foreign exchange is involved or not, which can be attributed to the processing of the product at a particular plant. Value added in foreign currency, on the other hand, attempts to measure the *net* gain in foreign exchange involved in replacement of imports or in exports at the time when such gain is realized, irrespective of the fact that processing at several enterprises have made this gain possible.

enterprises and, as far as possible, the estimates of gross value added be derived from turnover or output valued at market prices less purchases from other industries. As a matter of fact, many countries in Africa are at present preparing estimates along those lines, although in practice some industrial contributions are also evaluated via income, the choice being dictated by the data available.

Two major difficulties must now be mentioned. The existence of two different systems of national accounts in Africa and of different classifications of industries and commodities. In those African countries which were or are under French influence a national accounting system has been developed along lines different from the United Nations or O.E.E.C. system. Even if we limit ourselves to the 'Operations Account' and do not consider the 'Inventory Account', we can see that the basic account in those countries is 'Uses and Resources' for each commodity, and enterprises are classified industrially by their chief economic activity. In addition the French system includes private non-profit institutions with administration and not with households. It is not our task here to examine the problem of comparability of international definitions. To have a complete set of uses and resources accounts for each commodity, everything balanced, product by product, and a balance sheet (an inventory account) as well, is a planner's dream, but I am doubtful if the statistical resources at present available in African countries are sufficient for this task.

Briefly then – for short-term purposes and pending the outcome of the efforts being made by statisticians in Africa to improve the basic information directly available – there seem to be sufficient reliable data available to constitute three sector accounts: the public sector, the exporting enterprises sector and the rest of the world account. In addition, in order to utilize the existing information to the maximum, the indirect method of estimation of other economic aggregates can be used with considerable advantage. I shall try to prove this point in the case of gross capital formation estimates of the exchange economy, using import statistics as the starting-point.

3. *The Capital Sector*

The fact that producers' durable equipment (as well as many consumers' goods and some raw materials) are mainly imported

means that foreign trade statistics, after some adjustments, may be relied upon to measure changes in the investment in machinery and equipment (and changes in consumption). If we confine the analysis of our external trade statistics to major items, the statistical work involved in obtaining totals of producers', intermediate and consumers' goods becomes manageable and the result is sufficiently accurate. At the same time it should be generally possible to reclassify the goods according to sectors (e.g. public sector, exporting enterprises sector, etc.).

The next problem to solve is how to raise import costs to the level of expenditures incurred by final purchasers of capital goods. Taxes and fees do not present a problem as in general customs records are available and up to date, but transportation costs, trade mark-up, etc., are generally larger in Africa than in other countries and have to be carefully analysed. On the other hand, in general, there are only a few leading foreign firms specializing in imports of capital goods, and from the information obtained from them the recorded c.i.f. values of assets imported can be raised to the level of actual expenditure. In addition, the data obtained as a by-product of such an enquiry on trade mark-ups, profits, etc., are most interesting for policy decisions and certainly justify the man-hours of research involved. Uniform mark-ups on all imports should therefore not be used, not only because, under African conditions, this method is subject to a considerable margin of error, but also because the detailed analysis of individual cost components is important for policy decisions.

The other element of gross capital formation – construction – can also be estimated, if we start from import statistics. Gross capital formation of the public sector and the exporting enterprises sector can be estimated from available accounts (Government, marketing boards, large companies, etc.). Direct imports by those sectors are also known. Using the imports of the remaining private sector and other important cost elements as benchmark, reasonably accurate estimates of gross capital formation can be obtained. Those estimates can be checked with more conventional types of data if available.

4. *The Subsistence Sector*

It is generally agreed that the relation between the traditional subsistence sector and the modern market economy is a

key problem in African economic development and 'the transformation of the traditional and mainly subsistence economy to a modern economy constitutes a basic characteristic of economic development in most of Africa'.[1] It is obvious, therefore, that the development planner must be supplied with a uniform framework of data including both parts of the economy. On the other hand, the division of the economic system into classes or groups is fundamentally based upon the view that different forces and motivations influence the behaviour of different parts of the economy. As the subsistence economy is, by definition, differently motivated from the market economy those two groups must certainly be separated.

Obviously there are theoretical and practical problems connected with the proposed solution, and some of them are certainly going to be discussed during this conference (What is the significance of national value aggregates in a country in which the unit of national currency does not serve as a nation-wide standard of value? Can a common denominator be found if the scale of values and the whole outlook are so different? etc.), but if the subsistence economy is shown as a separate group many of the practical problems can be avoided. The proposed solution is not only motivated by the very practical reason that from the development planning point of view it is most important to be able to distinguish immediately between reliable estimates and more or less calculated guesswork, but also by the fact that the distinction between money and subsistence income (or expenditure) and changes between those two groups are in themselves valuable indicators of development. In addition, for certain studies connected with development programme impact (e.g. inflation), it is preferable to focus the attention on the monetary economy only.

Returning to the problem of gross capital formation, the subsistence sector own account construction, especially in cases where nearly no imported materials are used – land reclamation, irrigation ditches, clearing, terracing, fences, huts – poses first of all identification and then, once identified, valuation problems. It is difficult to see how adequate estimates of subsistence sector investments (or, as a matter of fact, outputs) can be made without recourse to an agricultural census, followed by sample surveys using the interview and direct measure method.

[1] *Economic Survey of Africa Since 1950*, op. cit.

It must be remembered that, under African conditions, minor items of investment are generally overlooked, but they are numerous and usually sizeable in the aggregate.

Even if we solve the identification problems – and it is a long and costly task – we are still faced with valuation problems. Let me mention just three valuation possibilities, all leading to quite different results:

(*a*) valuation at actual costs;
(*b*) using the actual cost of labour and materials and adding imputed cost of unpaid labour and imputed cost of materials used;
(*c*) using the cost of comparable assets constructed commercially.

In the United Nations System the first method is used, and, therefore, any investment should be valued according to actual cost. Obviously this solution is not very suitable for African countries where community development methods may be used which involve the mobilization of human resources for the purpose of creating capital. Labour is voluntary and unpaid and as far as possible local materials are used. The actual cost method would therefore cause a gross underestimate of actual capital formation.

The second method – adding to actual direct cost the imputed value of unpaid labour and imputed cost of local materials used – presents the usual difficulty of valuation under conditions of underemployment. In addition valuation is far from straightforward where regional and seasonal price differentials are considerable. The last method amounts to adding to the results obtained by the second method, certain overheads and profit margins, which again are imputed.

5. *Financial Accounts*

The now familiar system of national accounts can be traced to the earlier national income studies, which had as their main objective the measurement of total national income from whatever point of view the available statistics allowed; and the systems of today are still basically oriented towards showing the level and distribution of national income and product. On the other hand, the emphasis in this paper has been mainly on sector approach, as for planning purposes the behaviour of

sectors is sometimes even more important than the behaviour of the total economy.

In the developed countries there are already clear signs of a movement to bring together national income accounting, input-output tables and flow-of-funds statements into a comprehensive accounting system, with national accounts providing the unifying framework.[1] In Africa financial accounts have been attempted,[2] but they have not yet been included in most of the Statistical Offices' programmes, and only countries using the French system of national accounts attempt to measure changes in assets and liabilities. On the other hand, financial statistics are already available in many African countries, and it would be most useful for development planning purposes if the financial data could be integrated in the system of national accounts through the extension of the national accounts in the direction of financial flows. In this way the financial statistical series could be utilized directly for purposes of economic planning. This is especially important for the newly independent African countries establishing Central Banks (instead of the Currency Boards, etc.), and, therefore, taking over and becoming responsible in addition to fiscal policy also for monetary policy.

In order to be able to have the essential tools required for development planning the movements between sectors of the economy must be known. In other words, the changes in the sector's financial asset-liability position should be estimated, so that eventual disturbances between purchasing power and the availability of goods and services can be detected and located in the appropriate sector and the possible impact on the economy assessed.

Basically, the monetary economy of most African countries is so simple and the number of units concerned so small that real, financial, and asset-liabilities items can be brought into formal relationship with one another in a single set of accounts, and in this way a remedy can be found for the deficiency of the traditional national accounts.

Existing statistical resources would generally permit the extension of the traditional national accounts system in the direction

[1] 'Input-Output tables and analysis', *United Nations Seminar on National Accounts for Latin America*, June 1959, ST/STAT/CONF7/L.1.

[2] e.g. A. G. Irvine, 'The Preparation of National Finance Accounts in Underdeveloped Economies (with special reference to Rhodesia and Nyasaland)', *The Economic Journal*, June 1955.

of financial flows in respect of the public sector, exporting enterprises and financial institutions. This would amount to creating an additional sector, as in the traditional national accounts the financial institutions are not treated separately, but, in general, are included in the enterprise sector. The distinction between enterprises and financial institutions would add positive content, as in addition to the possibility of assessing the impact of financial institutions on the remainder of the economy, the question of 'impulse leakages' (payments to foreign factors of production, investment abroad, liquid balances held abroad) is important in African economies. This sector should also be broken down into African-owned financial institutions and branches or subsidiaries of foreign enterprises. For other sectors, where statistical resources are limited and basic information is lacking, the indirect method of estimation (information obtained from the public sector, financial institutions, etc.) can be used. Certain items which are of negligible importance will have to be suppressed, and other items represented only by a notional figure, based upon a partial estimate. The unincorporated enterprise sector will have to be amalgamated with the household sector. As the proposed extension of national accounts can, if necessary, be further simplified without impairing the basic concept of sector approach, it is possible to start by estimating the most important sectors and then elaborate along the lines of a fuller system.

IV. THE DEFINITION OF DOMESTIC PRODUCT

Once the sector accounts are built into a fully articulated system, the traditional national income magnitudes can be derived from the sector accounts. One final point arises, however, in connection with the definition of domestic product. It has been suggested that three concepts of aggregate products should be distinguished: territorial or geographic product, domestic or resident product and national product.[1] The territorial product would be defined as the aggregate product of all producers located within the actual territory of the given country. The domestic product would be the aggregate product of all resident producers of the given country. It would thus

[1] *Proposals for revision of 'A System of National Accounts and Supporting Tables' and 'Concepts and Definitions of Capital Formation'*, a summary of Comments on Document E/CN.3/L.44, United Nations memorandum E/CN.3/229 of 17th March 1958.

equal the territorial product *plus* the product of resident producers located abroad *less* the product of non-resident producers located in the country. The last concept – national product – would also remain unchanged. Preference has generally been expressed for the definition of domestic product of resident producers of the given country and only for expository purposes it was thought useful to introduce into the text of the United Nations National accounts publication a reference to the concept of 'territorial' or 'geographical' product. Only some countries have indicated their preference for the territorial concept over the 'domestic' concept.

Under African conditions – migrant labour, existence of branches and subsidiaries of foreign firms, etc. – the territorial or geographic concept is at least as important as other economic aggregates and should be introduced explicitly into the system of accounts. As a matter of fact, this concept is already now very much in use in African countries and the Canadian experience, where the value added by establishments located within the country is the only major aggregate in addition to gross national product (and national income) used in planning, is relevant in Africa.

V. CONCLUDING REMARKS

The role of the economist in development planning in Africa is apt to consist not so much in high-powered analysis, but 'in opening the doors of thought to the simplest propositions in the text book' [1] and in translating these simple propositions into concrete and practicable programmes or measures.

The traditional systems of national accounts are still basically oriented towards showing the level and distribution of national income and product. African conditions require, at least for planning purposes, something different, in conception rather than in content – the suggested sector approach. The public in general has been seized by the national accounts mystique, without any clear idea of what it can yield. Today in many independent countries national accounts are regarded, alongside the national flag and the national anthem, as symbols of independence. This mystical belief can be turned to the planners' advantage, provided national accounts are treated as a means to

[1] Sidney Alexander, *Economics and the Policy Maker*, Brooking Institution, London, Faber, 1960.

an end – development – and not as an end in itself. We at least should not become creatures of our own national accounts slogans.

Some attention had to be given, in this paper, to the problems of the subsistence economy. In my opinion most of the basic problems of valuation and identification, raised by Phyllis Deane in 1946 in her pioneering study,[1] have not yet been answered satisfactorily. I, for one, am not ashamed to suspend judgement when the state of the material justifies it and recommend, therefore, to give first priority to the monetary sector. If the subsistence economy is included in the totals, it must be shown separately with a detailed description of sources, methods and error involved. National accounts, and not only for planning purposes, must be much more a matter of fact and much less a matter of individual opinion. The present danger is that if we strive to become monumental (through the inclusion of everything), we will merely be disproportionate.

The main conclusions of this paper are:

(1) Using the direct and indirect methods of estimation (from public sector accounts, trade statistics, large companies, etc.), sector accounts should be created starting with
(*a*) the public sector;
(*b*) the exporting enterprises sector;
(*c*) the financial institutions sector;
(*d*) the rest of the world.
At the same time sufficient information will generally be available to estimate the 'other enterprises sector' and the 'household and private non-profit institutions sector'. Under certain conditions the African enterprises would have to be amalgamated with the households.

(2) National accounts should be extended to include financial flows between sectors.

(3) Each item in the accounts, whenever applicable and possible, should, in addition to the breakdown into the remaining five sectors, be divided into African and non-African.

[1] Phyllis Deane, *The Measurement of Colonial National Incomes*, National Institute of Economic and Social Research, Occasional Paper XII, Cambridge University Press.

(4) The territorial or geographical concept is at least as important as other concepts of aggregate product (domestic or resident and national), and should be introduced explicitly into the system of national accounts.

APPENDIX

THE PUBLIC SECTOR

1. The public sector is divided into two groups:

(1) Public sector agencies.
(2) Public sector enterprises.

2. The function of the public sector agencies (general government) is to organize for (but not normally to sell to) the community those common services which cannot otherwise be conveniently and economically provided and to act as the administrative agency for the economic and social policy of the community.

3. An economic unit, in order to be considered as an enterprise, has to produce goods and services for sale at a price intended approximately to cover the cost of production, while to be part of the public sector it must be under public ownership or control.

4. It follows from those concepts that there are two borders to the public enterprises sector: public agencies on one side and private enterprises on the other, with public enterprises or corporations as a sort of bridge between the public sector and the market economy.

5. The functions of the public sector agency have been described as 'to organize for, but not normally to *sell* to'. Therefore all units whose main function is selling goods or services are classified as enterprises, irrespective of their treatment in Government's accounts. Where the selling activity is only accidental (sales of confiscated contraband by the Customs Department) the unit is naturally considered an agency.

6. Certain Government units are organized to supply goods and services for the use of individual Government agencies, but do not directly provide services to the public (Government transport, central purchasing agency, public works department).[1]

7. These units are enterprises ancillary to agencies or for short-ancillary agencies. The characteristics of ancillary agencies are as follows:

(i) They are organized as separate agencies or as separately distinguishable sections within a Government ministry or department.

[1] One advantage of distinction between pure Government agencies and ancillary agencies is to permit to classify ancillary agencies under the industry corresponding to their product. On the other hand, the separation of ancillary agencies from public sector enterprises permits to distinguish activities which reflect expenditure on general government services from those which reflect demand forthcoming at a particular price (the scale of operation of ancillary agencies is determined primarily by Government agencies' needs, because they supply primarily the Government agencies; the scale of operations of public sector enterprises is mainly related to the general demand).

(ii) Their expenditure is financed either by specific appropriations from general Government funds or by charges to Government agencies for goods and services supplied to them or by a combination of both methods.

(iii) They exist primarily to supply goods and services to general Government agencies. They may also supply Government enterprises and have some sales to outside bodies, but the scale of their operations is determined primarily by general Government needs. The value of their production is therefore, in the main, part of the cost of providing Government services free (or at nominal charges only) for the benefit of the community, and the amount of their production is not determined by market forces, but by decisions of political bodies as to the scale on which general Government services should be provided.

(iv) The goods and services which they provide could possibly be purchased from a non-Government body.

8. The second and third sub-group of the public sector consists of public enterprises – units producing goods and services for sale and subject therefore to market forces, which are owned or controlled by public sector agencies. Naturally the word 'control' is limited here to effective influence in the main aspect of management and does not cover such influence as is derived from the use of public regulatory powers of a general kind. Included in this sub-group are two categories of enterprises, distinguished by the degree of political control:

(*a*) Dependent Public Enterprises – all public enterprises which are financially integrated into general Government budgets do not keep their own reserves, apart from working balances, are subject to Government internal financial regulations, control and accountability and do not have distinct juridical personality (i.e. postal services).

(*b*) Independent Public Enterprises – public corporations and companies, units formally established and regulated by special law, their shares being wholly or mainly owned by public authorities and their management mainly chosen by public authorities. This category should include enterprises functioning under the general companies ordinance or any similar law, which are owned and/or controlled by Government.[1]

9. Each item in the three accounts (current, capital and financial) should be broken down, whenever possible and applicable, into:

(*a*) Internal flows (flows within the public sector).
(*b*) Exporting enterprises.
(*c*) Other enterprises.
(*d*) Financial institutions.
(*e*) Households.
(*f*) Rest of the world.

At the same time the distinction between African and non-African, etc., should be carried over into the accounts.

[1] Corporations or enterprises in which the Government has only financial interest (through ownership of a few shares), but does not have control, belong to the private sector.