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**Features of the 1993 System of National
Accounts (SNA) and its Implementation
in African Countries*/**

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- Chart II.1 A Survey of the Central Framework
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***/ Based on**

- Revised System of National Accounts - Introduction, ST/ESA/STAT/SER.F/2/Rev.4 (Introduction)
- Revised System of National Accounts - Chapter II - Overview, ST/ESA/STAT/SER.F, Rev.4 (Chapter II)

1. Major differences between the Revised SNA and the 1968 SNA

The Revised SNA is characterized by a number of important features as below:

- The central framework of the revised SNA is presented in the T-accounts as well as in a matrix presentation, while the basic theoretical framework of the 1968 SNA has been retained;
- Complete sets of accounts (e.g., production, income, capital and financial, balance sheets and reconciliation) for the institutional sectors as well as for the national economy are to be distinguished and integrated; in particular, there will be production accounts for the household sector;
- Emphasis is being placed on the income accounts (namely: generation of income, primary and secondary distribution of income, redistribution of income in kind, use of income,) for the institutional sectors and the national economy as a whole;
- Some minor changes have been proposed in the sectoring and the sub-sectoring of institutional sectors (e.g., households, general government, etc.);
- Introduction of some concepts and definitions of stocks and flows of economic transactions, such as income, consumption, fixed capital formation, especially the widening of the scope of fixed capital formation;
- Valuation of gross output at different prices, producers' prices including VAT, and producers' prices excluding VAT, while intermediate inputs and final consumption continue to be valued at purchasers' prices;
- Rehabilitation of some national accounting aggregates, e.g., Gross domestic product (GDP) at factor cost, GDP at market prices, Gross national product (GNP), Gross national disposable income, etc...;
- Emphasis on flexibility of the revised system to meet individual countries' needs and special circumstances within the framework of the revised SNA;
- Harmonization of definitions and practices of the SNA with other related statistical systems, notably the IMF's Balance of Payments Manual and Government Finance Statistics; and
- Introduction of satellite accounts (e.g., for the Environment, Tourism, Education, Health, etc.), which would be outside the main framework of the revised SNA, to satisfy the particular analytical needs of users.

2. The sequence of accounts

(a) The Production Account

The Production Account relates to the activity of producing goods and services as defined within the System. Its balancing item, gross value added, is defined as the value of output less the value of intermediate consumption and is a measure of the contribution of GDP made by an individual producer, industry or sector. Gross value added is the source from which the primary incomes of the System are generated and is therefore carried forward into the Primary Distribution of Income Account.

(b) The income accounts

The income accounts consist of a set of articulated accounts showing how incomes are:

- generated by production;
- distributed to institutional units with claims on the value added created by production;
- redistributed among institutional units, mainly by government units through social security contributions and benefits and taxes;
- eventually used by households, government units or non-profit institutions (NPIs) for purposes of final consumption or saving.

The balancing item emerging from the complete set of income account is saving which is carried forward into the Capital Account. The income accounts have considerable intrinsic economic interest in themselves. They are needed to explain the basic economic activity of final consumption - that is, the use of the goods and services emanating from production for the satisfaction of the individual and collective needs and wants of households and the community.

(c) The accumulation accounts

These accounts record the acquisition and disposal of financial and non-financial assets and liabilities by institutional units through transactions or as a result of other events:

- The Capital Account records acquisitions and disposals of non-financial assets as a result of transactions with other units or internal bookkeeping transactions linked to production (changes in inventories and consumption of fixed capital);
- The Financial Account records acquisitions and disposals of financial assets and liabilities, also through transactions;
- A third account records changes in the values of the assets and liabilities held by institutional units as a

result of other factors, including changes in the prices of the assets during the course of the accounting period.

The link between the accumulation accounts and the income accounts is provided by the fact that saving must be used to acquire financial or non-financial assets of one kind or another, even if the asset is only cash. When saving is negative, the excess of consumption over income must be financed by disposing of assets or incurring liabilities. The Financial Account shows way in which funds are channelled from one group of units to another, especially through financial intermediaries. Access to finance is typically a prerequisite for engaging in many types of economic activities.

(d) The Balance Sheets

The Balance Sheets show the assets and liabilities of institutional units at the beginning and end of the accounting periods. As already noted, the levels of assets and liabilities at any moment of time vary automatically whenever any transactions, price changes or other changes affecting the volume of assets or liabilities held take place. These are all recorded in one or other of the accumulation accounts so that the difference between the values in the opening and closing Balance Sheets is entirely accounted for within the System, provided, of course, that the assets and liabilities recorded in the Balance Sheets are valued consistently with the transactions and other changes - that is, at current prices.

Activities and transactions

The accounts of the System are designed to provide analytically useful information about activities and processes taking place in the economy, such as production, consumption and the accumulation of assets. They do this usually by recording transactions between institutional units that are associated with these activities rather than by trying to record or measure the physical processes directly. For example, the accounts do not record the physical consumption of goods and services by households - the food they eat or the fuel they burn within a given time period. Instead, they record the expenditures that households make on final consumption goods and services or, more generally, the values of the goods and services they acquire through transactions with other units, whether purchased or not. Data on transactions provide the basic source material from which the values of the various elements in the accounts are estimated. The use of transactions data has important advantages. First, the prices at which goods and services are exchanged in transactions between willing buyers and sellers on markets provide the information needed for valuing, directly or indirectly, all the items in the accounts. Second, a transaction that takes place between two different institutional units can be recorded for both parties to the transactions and therefore generally appears twice in the accounts. This output is obtained by summing the amounts sold, bartered or transferred to other units plus the amounts entered into, less the amounts withdrawn from, inventories including work-

in-progress. In effect, the value of output is obtained by recording the various uses of that output by means of data on transactions. In this way, flows of goods and services can be traced through the economic system from their producers to their eventual users. Some transactions are only internal bookkeeping transactions that take place within a single unit, but the great majority of transactions take place between different units or markets.

3. Statistical units, concepts and classifications

3.1 Statistical units

Two main kinds of institutional units, or transactor, are distinguished in the System - households and legal entities. The latter are either entities created for purposes of production, mainly corporations and NPIs, or government units including social security funds. Institutional units are essentially units that are capable of owning goods and assets, of incurring liabilities and of engaging in economic activities and transactions with other units in their own right. For purposes of the System, institutional units that are resident in the economy are grouped together into five mutually exclusive sectors composed of the following types of units:

- Non-financial corporations;
- financial corporations;
- government units including social security funds;
- NPIs serving households;
- households.

The five sectors together make up the total economy. Each sector can also be divided into sub-sectors, if desired. The System makes provision for a complete set of accounts, including balance sheets, to be compiled for each sector, and sub-sector if desired, as well as for the total economy. The total number of accounts that may be compiled is therefore potentially quite large, depending upon the level of disaggregation that is required and feasible. Only by disaggregation is it possible to observe the interactions between the different parts of the economy that need to be measured and analysed for purposes of policy making. The complete set of accounts at the level of the five main sectors is given in [chapter II, Overview].

Institutional units that are resident abroad are grouped together to form the rest of the world. The System does not require accounts to be compiled in respect of economic activities taking place in the rest of the world, but all transactions between resident and non-resident units have to be recorded in order to obtain a complete accounting for the activities resident units. Transactions between residents and non-residents are grouped of the together in a single account, the Rest of the World Account of the System.

3.2 Concepts and Classifications

The contents of the SNA depend not only on the accounting structure itself - that is, on the type and format of accounts distinguished - but also on the ways in which the items included in

the accounts are defined and classified. The issues involved are not simply of a technical nature but raise fundamental questions of economic theory and principles. The concepts and classifications used in the System have a considerable impact on the ways in which the data may be used and the interpretations placed on them.

3.2.1. The production boundary

The activity of production is fundamental. In the System, production is understood to be a physical process, carried out under the responsibility and management of an institutional unit, in which labour and assets are used to transform inputs of goods and services into outputs of goods and services. The goods must be such that their ownership can be exchanged in transactions between institutional units while the services must be such that they can be provided by one unit to another. In other words, all goods and services produced as outputs must be capable of being sold or disposed of on markets if desired, while all goods and services consumed must be capable of being purchased or acquired on markets. The criterion of marketability is fundamental to the definition of both goods and services produced as outputs. The System therefore includes within the production boundary all production actually destined for the market, whether for sale or barter. It also includes all services provided free to individual households or the community by government units or NPIs.

The main problem for defining the range of activities recorded in the Production Accounts of the system is to decide upon the treatment of activities that produce goods or services that could have been supplied to others on the market but are actually retained by their producers for their own use. These include a very wide range of productive activities, in particular:

- (1) the production of agricultural goods by households enterprises for own final consumption;
- (2) the production of other goods for own use by households: the construction of dwellings, the production of foodstuffs and clothing, etc.;
- (3) the production of housing services for own final consumption by owner occupiers;
- (4) the production of domestic and personal services within households: cleaning, repairs, the preparation of meals, care and training of children, etc.

All these activities are productive. However, inclusion in the System is not simply a matter of estimating, or imputing, values for the outputs of these activities. It is also necessary to assign values to the corresponding consumption and the incomes generated by these activities. It is clear that the economic significance of these flows is quite different from that of monetary flows: For example, the incomes generated are not available to be spent on other goods and services but are tied to the consumption of the goods and services produced. The inclusion of large non-monetary flows of this kind in the accounts together with monetary flows can obscure what is happening on markets and reduce the analytic usefulness of the data.

The SNA is a multipurpose system designed primarily for purposes of economic analysis, decision taking and policy making. It is therefore necessary to strike a balance between the desire for the accounts to be as comprehensive as possible and the desire to prevent flows needed for the analysis of market behaviour and disequilibria from being swamped by imputed values relating to non-market activities. The System therefore includes all production of goods for own use within its production boundary, as goods can be switched between market and non-market use even after they have been produced, but excludes all production of services for own final consumption within households (except for the services produced by paid domestic staff and the own-account production of housing services by owner occupiers). These services are all consumed as they are produced and the links with market activities are much more tenuous than for goods production, such as agricultural goods which may be produced partly for own final consumption and partly for sale, or barter, on the market. The location of the production boundary in the System is therefore a compromise, but a deliberate one taking account of the needs of most users. In this context, it may be noted that in labour force statistics economically active persons are defined as those engaged in productive activities as defined in the SNA. If the production boundary were to include the production of personal and domestic services by member of households for their own final consumption, all persons engaged on such activities would be not merely in the labour force but classified as employed. Unemployment would become virtually non-existent by definition. This illustrates the need to confine the production boundary in the SNA to market activities or activities that are close substitutes for market activities.

3.2.2 Other boundary problems

Certain natural processes may or may not be counted as production depending upon the circumstances in which they occur. A necessary condition for an activity to be treated as productive is that it must be carried out under the instigation, control and responsibility of some institutional unit that exercises ownership rights over whatever is produced. For example, the natural growth of stocks of fish in the oceans is not counted as production: The process is not managed by any institutional unit and the fish do not belong to any institutional unit. On the other hand, the growth of fish in fish farms is treated as a process of production in much the same way that rearing livestock is a process of production. Similarly, the natural growth of wild, uncultivated forests or wild fruits or berries is not counted as production, whereas the cultivation of crop-bearing trees, as trees grown for timber or other uses, is counted in the same way as growing annual crops. It should be noted, however, that the felling of trees in wild forests, and the gathering of wild fruit or berries, and also firewood, counts as production. Similarly, rainfall and the flow of water down natural water courses are not processes of production, whereas storing water in reservoirs or dams and the piping, or carrying of water from one location to another all constitute production.

These examples show clearly that many activities or processes that may be of benefit to institutional units, both as producers and consumers, are not processes of production in an economic

sense. Rainfall may be vital to the agricultural production of a country but it is not part of its GDP.

3.2.3 The consumption boundary

The coverage of production in the System has ramifications that extend considerably beyond the Production Account itself. The boundary of production determines the total value added produced and hence the total amount of incomes generated by production. The boundary of production also determines the boundary of consumption. In particular, the range of goods and services that are included in household final consumption expenditures, and actual consumption, is governed by the production boundary; for example, these expenditures include the estimated, or imputed, values of agricultural products produced by households for their own final consumption and also the values of the housing services produced for their own consumption by owner occupiers, but not the values of "do-it-yourself" repairs and maintenance to vehicles or household durables, the cleaning of dwellings or the care and training of children. Only the expenditures on goods utilised for these purposes - e.g., cleaning materials - are included in household final consumption expenditures.

3.2.4 The asset boundary

Balance Sheets are compiled for institutional units, or groups of units, and record the values of the assets owned by those units or the liabilities they have incurred. Assets as defined in the System are entities that must be owned by some unit, or units, and from which economic benefits are derived by their owner(s) by holding or using them over a period of time. Financial assets and fixed assets, such as machinery, equipment and structures which have themselves been produced as outputs in the past, are clearly covered by this definition. However, the ownership criteria is important for determining which naturally occurring - i.e., non-produced - assets are included in the System. Naturally occurring assets such as land, mineral deposits, fuel reserves, uncultivated forests or other vegetation and wild animals are included in the Balance Sheets provided that some institutional unit, or units, are exercising effective ownership rights over them - that is, are actually in a position to be able to benefit from them. The units needed not be private and could be government units exercising ownership rights on behalf of entire communities. Thus, most environmental assets are included within the System. Assets that are not included are those such as the atmosphere or the high seas over which no ownership rights can be exercised, or mineral or fuel deposits that have not been discovered or that are unworkable - that is, incapable of bringing any benefits to their owners, given their situation and the technology available at the time to which the Balance Sheet relates.

Changes in the values of naturally occurring assets owned by institutional units between one Balance Sheet and others are recorded in one or other of the accumulation accounts of the System, depending upon the reason for the change. For example, the depletion of a natural asset as a result of its use in production is recorded there, and also losses of fixed assets due to their destruction by natural disasters (floods, earthquakes, etc.) Conversely, when new workable deposits or reserves of minerals or

fuels are discovered, their appearance is recorded in one of the accumulation accounts and they enter the Balance Sheets in this way.

3.2.5 National boundaries

The accounts of the System are compiled for resident institutional units grouped into sectors and sub-sectors. The concept of residence is the same as that used in the Balance of Payments Manual of the IMF. An institutional unit is said to be resident within a given economy when it maintains a centre of economic interest in that territory: that is, when it engages, or intends to engage, in economic activities or transactions on a significant scale either indefinitely or over a long period of time, conventionally treated as one year for most purposes. The GDP of a country is therefore equal to the sum of the gross values added of all resident institutional units engaged in production as defined in the System (plus import duties and non-deductible VAT). This is not necessarily exactly the same as the sum of the gross values added of all productive activities taking place within the geographical boundaries of the national economy. Some of the production of a resident institutional unit may take place abroad: for example, the installation of some exported machinery or equipment or a consultancy project undertaken by a team of expert advisers working temporarily abroad. Conversely, some of the production taking place within a country may be attributable to foreign institutional units. However, if a resident institutional unit continues to engage in production in another country over a long period of time, it will usually be deemed to have acquired a centre of economic interest in that country. The unit engaged in production abroad will therefore be deemed to be a quasi-corporation resident in the country in which it operates, even if it does not have separate legal status in practice.

4. The Integrated Central Framework

Before entering into the details of the accounts, it is useful to survey the structure of the central framework. This can be done by looking at chart II.1. The central framework thus consists of the following:

- (1) the Integrated Economic Accounts in which are presented the full set of accounts of institutional sectors and the rest of the world, together with the accounts for transactions (and other accumulation entries) and the accounts for assets and liabilities; it is worth noting at this preliminary stage that the relations between sectors ("from whom to whom?") are not directly depicted in this table;
- (2) the supply and use table in which are integrated the accounts of industries, according to kind of economic activity, and the accounts of transactions in goods and services, according to type of product;
- (3) the three-dimensional analysis of financial transactions and stocks of financial assets and liabilities in which the relations between sectors ("from whom to whom?") are directly depicted;

- (4) the functional analysis in which certain transactions of institutional sectors are presented according to the purposes they serve;
- (5) the population and employment tables.

These various blocks, which altogether constitute the central framework are inter-linked in various ways. They are fully consistent because they use the same set of concepts, definitions, classifications and accounting rules.

(a) The integrated economic accounts: a preliminary view

The integrated Economic Accounts are at the centre of the accounting framework. They provide an overall view of a given economy. It is useful to take a first glance at them through the simplified presentation in chart II.2. They will be described more completely after the various accounts have been introduced in detail.

Chart II.2 shows that, in columns, the integrated Economic Accounts include the accounts of institutional sectors (on both sides, there is, of course, a column for each sector, which is not shown separately here). These accounts are structured in three sub-sets, for current accounts, accumulation accounts and balance sheets. The current accounts record production and the distribution and redistribution of income; they show how disposable income is used for final consumption; they end with saving. The accumulation accounts record all changes in assets and liabilities, and consequently all changes in occur in a given period. Balance sheets record the stocks of assets and liabilities, and the difference between them, which exist at the opening and the closing of the accounting period. There is also a column for the rest of the world.

The central column includes the transactions, balancing items and assets and liabilities ordered according to the structure of the accounts referred to above. Thus, in a row for a given transaction, such as interest, the chart shows the payables and the receivables by the various institutional sectors and the rest of the world. Each account for a given transaction is in principle balanced: the sum of interest payable is equal to the sum of interest receivable. A transactions account is a dummy account. It does not show how much interest is payable/receivable by an institutional sector to/from each of the institutional sectors or the rest of the world, but only how much interest is payable and receivable by each sector. Transactions in goods and services are a special case, because there is a unique balance for all transactions in goods and services and not for each of them. For this reason, a special column corresponds to the Goods and Services Account. As explained later on, each transaction in goods and services (production, final consumption, etc.) appearing in the accounts of the institutional sectors is reflected in this column.

(b) The aggregates

The aggregates of the System - for example, value added, income, consumption and saving - are composite values which measure

the result of the activity of the entire economy considered from a particular point of view. They are summary indicators and key magnitudes for purposes of macro-economic analysis and comparisons over time and space. The SNA aims to provide a simplified but complete and detailed picture of complex economies, so the calculation of the aggregates is neither the sole nor the main purpose of national accounting. Nevertheless, summary figures are very important.

Some aggregates may be obtained directly as totals of particular transactions in the System; examples are final consumption, gross fixed capital formation and social contributions. Others may result from summing up balancing items for the institutional sectors; examples are value added, balance of primary incomes, disposable income and saving. They may need some further elaboration. Some of them are so commonly used that they deserve additional explanation at this early stage.

Gross domestic product (GDP) at market prices represents the final result of the production activity of resident producer units.

Basically, GDP is a concept of value added. It is the sum of gross value added of all resident producer units (institutional sectors or, alternatively, industries) plus that part (possibly the total) of taxes, less subsidies, on products which is not included in the valuation of output^{**/}. Gross value added is the difference between output and intermediate consumption.

Secondly, GDP is also equal to the sum of the final uses of goods and services (all uses except intermediate consumption) measured in purchasers' prices, less the value of imports of goods and services.

Thirdly, GDP is also equal to the sum of primary incomes distributed by resident producer units.

Net domestic product at market prices (NDP) is obtained by deducting the consumption of fixed capital from GDP.

The concept of value added should conceptually exclude the counterpart of consumption of fixed capital. The latter, in effect, is not newly created value, but a reduction in the value of previously created fixed assets when they are used up in the production process. Thus, theoretically, value added is a net concept.

This conclusion applies to domestic product as well. Theoretically, domestic product should be a net concept. However, GDP is commonly used for various reasons. The depreciation of

^{**/} If basic prices are used for valuing output, GDP is equal to the sum of gross value added of all resident producer units plus all taxes on products (less subsidies on products). If producers' prices are used for valuing output, GDP is equal to the sum of gross value added of all resident producer units plus taxes on imports, less import subsidies - in absence of a value added tax system - or plus taxes on imports (less import subsidies) and value added type taxes - when such a taxation system does exist.

fixed assets as calculated in business accounting does not generally meet the requirements of SNA concepts. The calculation of consumption of fixed capital requires that statisticians estimate the present value of the stock of fixed assets, the lifetime of various types of assets, patterns of depreciation, etc. Not all countries make such calculations, and when they do there may be differences in methodology (with some of them using business data even when inadequate). Consequently, gross figures are more often available, or available earlier, and they are generally considered more comparable between countries. So GDP is broadly used even if it is, on a conceptual basis, less relevant than net domestic product. However, net domestic product should also be calculated, with improved estimates of consumption of fixed capital when necessary, in order to provide a significant tool for various types of analysis.

Neither gross nor net domestic product is a measure of welfare. Domestic product is an indicator of overall production activity. As such, its interpretation relies heavily on the concept of production that is used in the System and the way the borderline between intermediate consumption and final uses is drawn. For example, non-remunerated housekeeping services are not included within the production boundary and so are not reflected in domestic product, and in-house training activities by enterprises are considered intermediate consumption, resulting in lower domestic product than would be the case if they were treated as final uses.

On the other hand, the significance of market prices determines the meaning of the values which are measured when compiling GDP. Firstly, no different value judgements are attached to certain goods or services in comparison with others; a given amount of tobacco consumption is equivalent to the same amount of milk consumption; the same is true for education and defence, etc. Secondly, externalities, like the nuisances in urban buildings caused by noise, are not taken into account.

In addition, it should be noted that domestic product is not a concept of sustainable income to the extent that economic growth may depend on natural resources and changes in human capital and that exceptional events, like wars or floods, are treated as directly affecting assets and net worth without influencing the measures of product and income.

Primary incomes generated in the production activity of resident producer units are distributed mostly to other resident institutional units; however, part of them may go to non-resident units. Symmetrically, some primary incomes generated in the rest of the world may go to resident units. This leads to the definition and measurement of gross national income (GNI) at market prices. GNI is equal to GDP less primary incomes payable to non-resident units plus primary incomes receivable from non-resident units. In other words, GNI is equal to GDP less taxes (less subsidies) on production and imports, compensation of employees and property income payable to the rest of the world plus the corresponding items receivable from the rest of the world. Thus GNI at market prices is the sum of gross primary incomes distributed to resident institutional units/sectors. It is worth noting that GNI at market prices was called gross national product

in the 1953 SNA, and it is commonly denominated GNP. In contrast to GDP, GNI is not a concept of value added, but a concept of income (primary income).

By deducting the consumption of fixed capital from GNI, net national income (NNI) at market prices is obtained. The remarks above about the conceptual relevance of the net concept in case of product apply even more strongly to national income. The remarks about welfare or sustainability also apply.

Primary incomes receivable by resident institutional units may be used in part to make transfers to non-resident units; reciprocally, resident units may receive transfers originating out of primary incomes in the rest of the world. Gross national disposable income (GNDI) is equal to GNI at market prices less current transfers (other than taxes, less subsidies, on production and imports) payable to non-resident units, plus the corresponding transfers receivable by resident units from the rest of the world. GNDI measures the income available to the nation for final consumption and gross saving. National disposable income is the sum of disposable income of all resident institutional units/sectors. ***

By deducting the consumption of fixed capital from GNDI, net national disposable income (NNDI) is obtained.

All the aggregates referred to above are calculated in current values. The influence of changes in prices may also be eliminated. Domestic product is calculated at constant prices in order to measure the change in volume which occurs from one period to another one. This may be done because output, intermediate consumption and taxes, less subsidies, on products can all be calculated at constant prices. On the other hand, aggregates of income may not be expressed in volume (at constant prices) because income flows may not, strictly speaking, be broken down between a quantity and a price component. They may be calculated at constant purchasing power, or in real terms. When moving from domestic product at constant prices to national income in real terms, the effect of changes in the terms of trade between the total economy and the rest of the world is taken into account [see (chapter XVI, Price and Volume Measures)].

The analysis of net worth is an integral part of the system. Changes in real national net worth is the sum of changes in net worth of all resident institutional sectors less the neutral holding gains/losses (that is, in proportion to general price level). They are equal to the sum of saving and capital transfers, other changes in volume of assets and real holding gains or losses.

Capital formation and final consumption grouped together constitute national expenditure - gross if gross fixed capital

*** For the economy as a whole there is no difference between disposable income and adjusted disposable income, because current transfers in kind to or from the rest of the world are treated exactly in the same way as transfers in cash.

formation is included, net if only at fixed capital formation is considered.

C. Flexibility of the System

Applying the central framework in a flexible way

The central framework is coherent in terms of its concepts and its accounting structure. Links between the various elements of the integrated System have been emphasized in order to depict its structure in a simple but complete way. That presentation does not imply any order of priority or frequency (quarterly, annually, etc.) for implementing national accounts. Priorities in compiling national accounts are a matter of statistical policy; no universal recommendation can be made. (However, some indications relevant to specific circumstances are provided in the relevant Handbooks.) Similarly, the accounting structure does not imply that results always have to be presented exactly as they stand in this or other chapters. A country may choose to publish mainly time series, to prepare only some accounts or aggregates, etc. However, attention needs to be drawn to the following point. Because users may find it difficult to fully understand the conceptual and practical links between the various parts of the System, it is advisable to use the kind of presentation made in table II.6, Integrated Economic Accounts, with the appropriate adaptations to a country's.

In general, the System has to be looked at in a consistent but flexible way. According to analytical requirements and data availability, emphasis put on various aspects within the central framework may vary. In general, emphasis may be varied by using the System's classifications of institutional sectors, industries, products, transactions (including the complementary classification), sequence of accounts, etc. at various levels of detail (including additional ones); by using different methods of valuation; by using different priorities for various parts of the accounts and different frequencies; by rearranging the results; by introducing some additional elements, etc.

The household sector provides a good illustration of what may be done in order to provide an in-depth analysis of the household conditions and the functioning of the economy as a whole. The necessary detailed approach to the household sector may be undertaken, firstly, by deconsolidating the household sector beyond the sub-sectors included in the main classification of the System, distinguishing, for instance, the type of economic activity carried out (formal/informal), the location of the household (urban/rural) or the level of skill. Secondly, it is possible to adapt the way household activities are portrayed in the sequence of accounts. For instance, a concept of discretionary income may be used, which relates to that part of disposable income which is provided in cash and on the use of which households may take decisions, or the classification of household transactions may be complemented, for example, to isolate in-kind components or to show the industry of origin of various types of income.

The flexibility of the System is further illustrated with the public sector, whose components are systematically shown at various levels of detail in the classification of institutional sectors. The components of the public sector may be re-arranged to group the

accounts of the overall public sector. These accounts may be shown before consolidation and after consolidation to describe the relations between the public sector and the private sector and between the public sector and the rest of the world (by separating out the external transactions of the public sector).

Introducing social accounting matrices

A social accounting matrix (SAM) is a presentation of the SNA in matrix terms that incorporates whatever degree of detail is of special interest. To date, builders of SAMs have exploited the available flexibility to highlight special interests and concerns more than compilers of regular national accounts, displaying the interconnections, disaggregating the household sector, showing the link between income generation and consumption, etc. The power of a SAM, as well as of the SNA, comes from choosing the appropriate type of disaggregation to study the topic of interest. In addition to a flexible application and the inclusion of various complements, SAMs may incorporate more extensive adjustments, which are of a satellite accounting nature, in order to serve specific analytical purposes.

Introducing satellite accounts

In some cases, working with the central framework, even in a flexible way, is not sufficient. Even when conceptually consistent, the central framework could be overburdened with details. Moreover, some requirements may conflict with the central conceptual framework and its architecture.

In certain types of analysis, the basic intention is not to use alternative economic concepts, but simply to focus on a certain field or aspect of economic and social life in the context of national accounts. The intent is to make apparent and to describe in more depth aspects that are hidden in the accounts of the central framework or surface only in a limited number of points. Tourism is a good example. Various aspects of producing and consuming activities connected with tourism may appear in detailed classifications of activities, products and purposes. However, specific tourism transactions and purposes appear separately only in a few cases. In order to describe and measure tourism in a national accounts framework, it is necessary to make a choice between two approaches: Either subdivide many elements in the accounts of the central framework to get the required figures for tourism and pay the price of overburdening and imbalancing the various components of the accounts, or elaborate a specific framework for tourism. The latter approach, the only feasible one actually, also allows adaptation of the various classifications and measurement of additional aggregates, such as national expenditure on tourism, which may cover intermediate as well as final consumption.

In other types of analysis, more emphasis is given to alternative concepts. For instance, the production boundary may be changed, generally by enlarging it. For example, the production of domestic services by members of the household for their own final consumption may be brought within the production boundary. The concept of fixed assets and the related fixed capital formation may be broadened, by covering, for example, research and development

expenditures, consumer durables or human capital. It is also possible in environmental accounting to record the relations between natural assets and economic activities differently, by recording the depletion of subsoil on other natural resources and the degradation of natural assets. In these approaches, the economic process itself is depicted differently, and complementary or alternative aggregates are calculated.

The analysis of a number of important fields such as social protection, health or the environment may benefit from building a framework to accommodate elements which are included in the central accounts, explicitly or implicitly, plus complementary elements (either monetary or in physical quantities) and possibly alternative concepts and presentations. In all cases, however, the links with the central framework are made explicit, there are a number of common elements and any contradictory features are introduced, not by change, but after explicitly considering various ways of looking at reality.

Those special constructs, which are semi-integrated with the central framework, are called satellite accounts.

5. Selected issues regarding the implementation of the 1993 System of National Accounts in African countries

Most African national statistical offices currently suffer from a number of weaknesses which may hamper, to a large extent, the smooth implementation of the 1993 in the region. These weaknesses include mainly:

- (i) the lack of the necessary infrastructure (e.g., insufficient number of qualified and experienced professional statisticians; lack of computer and related equipment for data processing; lack of field organization for carrying out regular data collection programmes, such as censuses and surveys, to generate basic data for benchmark years and current annual data series in economic statistics;
- (ii) largely as a result of (i) above, lack of viable basic and current economic data series on production, generation and redistribution of incomes, composition of household consumption expenditure, etc., on which the national accounts compilation is based
- (iii) lack of resources (both financial and personnel) from the government budget to carry out much needed establishment and household surveys, often the conduct of such surveys depends on the availability of external financing from multilateral and bilateral donors;
- (iv) lack of qualified and experienced national professional staff in the field of national accounts; even where such national expertise does exist, the relatively large staff turnover in many African statistical offices, on account mainly of the unsatisfactory prevailing pay scale and working conditions and poor career development prospects compared with those prevailing elsewhere (e.g., the

private sector, parastatal bodies, etc.), the chances of losing such national expertise are great.

In view of the constraints mentioned above, several workshops and intergovernmental seminars on the revision of the SNA or development of economic statistics, held in the African region during the period 1986-1990 made the following suggestions for the implementation of the 1993 SNA:

- (i) At the global level : the United Nations Statistical Division (UNSTAT), working in collaboration with the Inter-Secretariat Working Group on National Accounts (ISWGNA), should continue to:
 - prepare handbooks and manuals on various topics of the revised SNA to provide adequate practical guidelines for developing countries on the SNA's implementation;
 - assist in organizing regional training workshops and seminars for national accountants in close collaboration with the Regional Economic Commissions;
 - prepare country case studies on the compilation of SNA accounts and tables.
- (ii) At the regional level: the Regional Economic Commissions in close collaboration with UNSTAT, should:
 - Organize training workshops or inter-governmental seminars on the implementation of the revised SNA;
 - define regional priorities for the compilation of the accounts and tables of the revised SNA;
 - promote the development of basic and current data in the countries of the region, especially those relating to the Informal Sector, Household consumption expenditure, financial flows and external transactions, capital stock and capital consumption;
 - Help in training more national accountants.
- (iii) At the country level: the bulk of the work on the implementation of the revised SNA should fall on the national statistical offices and involve the following:
 - organization of in-service training courses in National Accounts;
 - establishment of national priorities for the compilation of the accounts and tables of the revised SNA;
 - establishment of statistical work programmes aimed at filling in the major data gaps in basic economic and social statistics needed for the compilation of national accounts and for improving the data quality;
 - establishment of a user/producer committee on national accounts comprising statisticians, planners, policy makers, economic analysts, academicians, etc..

ANNEX
Chart II.1. A survey of the Central Framework

<u>Supply and use table</u>	<u>Integrated Economic Accounts</u>	
Accounts of industries by kind of economic activity	Institutional sectors and rest of the world	
...	X Accounts	<u>Functional analysis</u>
Accounts of transactions in goods	X Transactions and other flows	Institutional sectors X
	Assets/liabilities	Purposes
		X
		Transactions
<u>Population and employment tables</u>	<u>Three-dimensional analysis of</u>	
	<u>Financial transactions</u>	<u>Stocks of financial assets and liabilities</u>
	Institutional sectors	Institutional sectors
	X	X
	Institutional sectors	Institutional sectors
	X	X
	Transactions in types of financial assets and liabilities	Types of financial assets and liabilities

Note: X indicates "cross-classified by".

Chart II.2 Integrated Economic Accounts

(Simplified Presentation)

Goods and Services	Rest of the world	Total economy	Institutional sectors	Transactions, balancing items, assets and liabilities	Institutional sectors	Total economy	Rest of the world	Goods and services
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Current accounts

Uses

Resources

Changes in assets

Accumulations accounts

Assets

Balance sheets

Changes in liabilities and net worth

Liabilities and net worth

CHART II.3 A SYNOPTIC PRESENTATION OF THE ACCOUNTS, BALANCE ITEMS AND MAIN AGGREGATES

A C C O U N T S				
Full sequence of accounts for institutional sectors				
CURRENT ACCOUNTS	I. Production account II. Distribution and use of income accounts	I. Production account (1) II.1 Primary distribution of income accounts II.2 Secondary distribution of income account II.3 Redistribution of income in kind account II.4 Use of income account II.4.1. Use of disposable income account II.4.2. Use of adjusted disposable income account	II.1.1. Generation of income account (1) II.1.2. Allocation of primary income account	II.2.1. Entrepreneurial income account II.1.2.2. Allocation of other primary income account
ACCUMULATION ACCOUNTS	III. Accumulation accounts	III.1 Capital account III.2 Financial account III.3 Other changes in assets accounts	III.3.1. Other changes in volume of assets account III.3.2. Revaluation accounts	III.3.2.1. Neutral holding gains/losses III.3.2.2. Real holding gains/losses
BALANCE SHEETS	IV. Balance sheets	IV.1. Opening balance sheet IV.2. Changes in balance sheet IV.3. Closing balance sheet		
Transaction accounts				
0. GOODS AND SERVICES ACCOUNT	0. Goods and services account			

Rest of the world account (External) transactions account				
CURRENT ACCOUNTS	V. Rest of the world account	V.I External account of goods and services V.II External account of factor income & current transfers		
ACCUMULATION ACCOUNTS		V.III. External accumulation accounts	V.III.1 Capital account V.III.2 Financial account V.III.3. Other changes in assets account	V.III.3.1. Other changes in volume of assets
BALANCE SHEETS		V.IV. External assets and liabilities account	V.IV.1. Opening balance sheets V.IV.2. Changes in balance sheet V.IV.3. Closing balance sheet	III.3.revaluation accounts

- (1) Apply also to industries
- (2) Most balancing items and aggregates may be calculated gross or net
- (3) Not a balancing item, but playing a similar role

BALANCE ITEMS	MAIN AGGREGATES (2)
B.1 Value added	Domestic product (GDP/NDP)
B.2 Operating surplus	
B.3 Mixed income	
B.4 Entrepreneurial income	
B.5 Balance of primary income	National income (GNI,NNI)
B.6 Disposable income	National disposable income
B.7 Adjusted disposable income	
B.8 Saving	National saving
8.10.1 (Changes in net worth, due to saving and capital transfers) (3)	
B.9 Net lending,Net borrowing	
B.9 Net lending/Net borrowing	
B.10.2 Changes in net worth, due to other changes in volume of assets	
B.10.3 Changes in net worth, due to nominal holding gains.losses	
B.10.31 Changes in net worth, due to neutral holding gains/losses	
B.10.32 Changes in net worth, due to real holding gains/losses	
B.90 Net worth	National worth
B.10 Changes in net worth, total	Changes in national worth
B.90 Net worth	National worth
	National expenditure

B.11	External balance of goods and services	External balance of goods and services
B.12	Current external balance	Current external balance
B.10.1	(Changes in net worth due to current external balance and capital transfers (3))	
B.9	Net lending/Net borrowing	
B.9	Net lending/Net borrowing	
B.10.2	Changes in net worth, due to other changes in volume of assets	
B.10.3	Changes in net worth, due to nominal holding gains/losses	
	neutral holding gains/losses	
	real holding gains/losses	
B.90	Net worth	Net external financial position of the nation
B.10	Changes in net worth	
B.90	Net worth	Net external financial position of the nation