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Some Issues in connection with the Improvement of the Social Accounting Systems of Developing Countries

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1. INTRODUCTION

There is growing awareness nowadays that the social accounting systems of developing countries are generally inadequate for purposes of analysis and planning. This inadequacy relates to the quality of the data contained in the systems as well as to their structure. The quality is generally very low, due to theoretical (e.g. conceptual) and practical (e.g. financial, manpower) problems of data collection and processing, classification, and valuation. As a result, the reliability of the accounts is very questionable.

The structure of the social accounting systems often does not allow for adequate coverage of the flows of goods and services which are produced and consumed by important groups in the economy. The importance of these groups is due to the fact that they are numerically large and/or because they deserve the special attention of policy makers and planners for socio-political reasons. The groups in question, and their productive and consumptive activities, are often referred to in literature as the subsistence economy, the traditional sector, etc.

The reason why the structure of the accounting systems so often does not provide coverage for important groups in the developing economies is that they are more or less copies of those used in the industrialized countries,[1] designed to reflect the social-economic structure of those countries. In other words, they cover the activities of their socio-economically important groups. They were also designed as tools for policy planning. The majority of developing countries, however, have other socio-economic structures than those of the industrialized countries; moreover, their policy and planning objectives are entirely different. When developing countries make use of such accounting systems, therefore, the drawbacks will be obvious. They will not only fail to show properly the productive and consumptive activities of important groups in the society, but their usefulness as tools for analysis, policy making and planning will be ambiguous, to say the least.

In recent years, development thinking has shown a shift in emphasis from issues of growth *per se* towards distribution-

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al issues. The importance of policies which aim at a more equal distribution of resources, opportunities and benefits is emphasized constantly, but appropriate tools have to be available for their proper formulation and implementation. A social accounting system may be such a tool provided it reflects properly the activities of the more important socio-economic groups, particularly those which are, or should be, the subject of development policy, i.e. the poor. Unfortunately these are sometimes excluded, or are given only meagre coverage, in existing accounting systems. In our view, this is sufficient reason to stress the need for revision of the social accounting systems of developing countries, and for improvements to their methods of data collection.

This will raise a number of theoretical and practical questions, some of which will be relatively new (e.g. the formulation of criteria for classifying data according to certain distinctions), others of which have already existed for a long time (e.g. the valuation of non-monetary output) but have simply become more pertinent. In this paper we shall highlight and discuss some of the more theoretical issues which may be raised in order to stimulate further discussions. In doing so, we shall not always attempt to present a balanced and rounded-off picture.

We shall focus mainly on the following issues:

- classification distinctions, and classification criteria
- measurement
- valuation

2. CLASSIFICATIONS, DISTINCTIONS, AND CLASSIFICATION CRITERIA

It has frequently been suggested that certain distinctions and classifications should be introduced into the social accounts of developing countries on the grounds that they would help to clarify the socio-economic position of groups and sectors in the economy which should have the special attention of planners and policymakers, e.g. with regard to distributional policies.

Among the distinctions proposed in this connection we frequently find dichotomies such as modern-traditional, urban-rural, etc. In some cases, these dichotomies have already been introduced into the accounting framework.[2]

Two issues should be raised in regard to the introduction into the accounting system of such dichotomies.

The first concerns the question of which distinctions and classifications should be made. This will be dealt with against the background of the opinion of some authors that some of the dichotomies are more or less synonymous.

The second issue relates to which criteria should be used for the classification of data under which part of a dichotomy. Although data are often classified on *a priori* grounds, there may well be instances, particularly in bor-

derline cases, in which classification creates difficulties and suitable criteria should then be available.
We shall limit ourselves here to discussing classification criteria for three dichotomies that are frequently suggested and sometimes applied: modern-traditional, urban-rural and monetary-non-monetary.[3]

Distinctions and classifications

The question of the appropriate distinctions and classifications to be made in the accounting systems of developing countries should preferably be considered as part of a wider one, namely: the most appropriate accounting frameworks for developing countries. As we have suggested earlier, the general answer to this is: those accounting frameworks which allow for adequate coverage of the socio-economic position and activities of important sectors and groups in the economy and, we may add, which show the interaction between them. Once it has been determined which groups and sectors are important, the distinctions and classifications which ideally should be made will follow more or less logically.

It would be misleading, however, to assume that the resulting distinctions and classifications would be the same for all developing countries. Groups and sectors will vary in importance in different countries, due to the fact that countries differ in size, in socio-economic structure, in degree of urbanization, in degree and nature of their government's involvement in processes of development and change, etc.[4] A detailed answer regarding the most appropriate accounting framework for a particular country will therefore vary from situation to situation.[5]

As a consequence, detailed recommendations cannot be made about the classifications and distinctions to be introduced. One should realize, however, that the argument for flexibility in the structure of the accounting framework, which follows from the reasoning above, is to some extent countervailed by considerations of international comparability, at least as far as important aggregates are concerned.

Notwithstanding all this, recent literature shows that certain distinctions are frequently and in a general way suggested for introduction in order that a better picture of the socio-economic reality may be obtained for policy and planning purposes. A number of these distinctions are of a dichotomous nature and clearly have the advantage of enabling an easy breakdown into classes. Some may be considered as a first step towards a more refined classification according to a particular criterion. The dichotomies which we come across most frequently in this connection, in addition to: modern-traditional, urban-rural, monetary-non-monetary, are formal-informal, organized-unorganized.

Dichotomies may be used in various combinations in an accounting framework: they may apply to all or to a few activities, sectors or groups in the economy.

Traditional	Monetary 1	Non-monetary 2	Urban
modern	Monetary 3	Non-monetary 4	
Traditional	Monetary 5	Non-monetary 6	Rural
modern	Monetary 7	Non-monetary 8	

Diagram 1

Which dichotomies should be used and for which activities, groups or sectors, should depend upon the particular situation of the country. Although there may be a considerable overlap between these dichotomies. it would be misleading to think that it is complete. Perhaps this can best be explained schematically, as in Diagram 1, in which the total area represents all productive activities of the economy in question and is intersected by the following three dichotomies: modern-traditional; monetary-non-monetary; and urban-rural. If, for whatever reason, it is assumed that modern = urban = monetary, and that traditional = rural = non-monetary, this will imply that, in terms of the diagram, cells 1, 2, 4, 5, 7 and 8 are empty, which seems rather infeasible. The following are typical examples of activities which, on *a priori* grounds, could be classified in at least some of these presupposed empty cells:

- cell 1 (urban, traditional, monetary): traditional urban manufacturing, i.e. large parts of the so-called informal sector;
- cell 5 (rural, traditional, monetary): small-scale farmers who cash crop for the local market;
- cell 7 (rural, modern, monetary): large farms or plantations producing for export markets.

In other words, use of a dichotomy which seems appropriate for distinguishing between activities according to one criterion, by no means automatically establishes a distinction according to other criteria.

Criteria for classification of data

In this section we shall discuss criteria for classifying data according to the three distinctions indicated above.

(i) Modern-traditional

The notion at the base of the distinction modern-traditional is that of differences in modes of production, which imply differences in such factors as efficiency, productivity, relative input of production factors, etc. Since these factors in turn have an impact on policy variables like level of employment, level of output, balance of payments, distribution of income, etc., a quantitative and qualitative insight into each kind of activity (i.e. those which make use of modern or traditional modes of production, is of the utmost importance, and a distinction between the two is fully justified. 'Mode of production', however, is a concept which cannot easily be defined so that it yields directly applicable criteria for distinguishing between modern and traditional, and for the classification of data accordingly. Other concepts which are closely related to that mode of production, e.g. technology or organization, have the same drawback in the sense that they cannot directly be expressed and measured in empirical terms.

In discussing this issue, Schimmler (1977: 2) points out that, generally speaking, the theoretical criteria for traditional and modern activities are normally seen in their relative labour and technology inputs. Since he is of the opinion that these concepts adequately characterize the differences between the two sectors and lend themselves more easily to empirical measurement, he argues that the criteria should depend (1) on the labour content of an activity, and (2) on the content of technology of the activity in question. Labour content is then defined as labour-intensity measured in manhours and comparable machine-hours (i.e. hours of labour replaced by a machine) for the same or equivalent product(s); technology content is defined as the ability to reproduce a given good or service in an identical way and with an absolutely identical result which, theoretically, may be measured in borderline cases by a combination of quantity input, time input and input costs for the given good (Ibidem: 21). Schimmler then suggests a number of proxies for some branches of economic activity (agriculture, manufacturing, services-sector). These proxies are supposed to reflect to a greater or lesser extent the labour and technology content of the activities. A numerical value is then selected for each of these proxies for the various branches of economic activity in order to serve as a cutting-off point in borderline cases, i.e. in those cases where it is not evident whether the activity in question should be classified as modern or as traditional. The se-

lection of the cutting-off point is an arbitrary matter, but may be considered as acceptable after thorough study of the prevailing alternative modes of production for a specific branch of economic activities.

Several other concepts have been suggested which could be used as criteria for distinguishing between traditional and modern activities, or as proxies which in particular cases (e.g. for certain sectors) might more or less adequately represent the criteria. The literature shows no unanimity, however, with respect to criteria and proxies, and the choice is by no means easy.

In the following discussion of suggestions by various authors, a distinction is made between 'general criteria and proxies' and 'branch-specific criteria and proxies'. The former indicates that the author refers to production activities in general when suggesting certain criteria and/or proxies; branch-specific criteria and proxies indicate that these are suggested as applicable to a specific sector.

General criteria and proxies

As we have indicated, Schimmler's opinion is that the criteria for distinction should be the *labour content and technology content* of the activity. Proxies for these criteria which are thought suitable for various sectors are indicated below.

Ward points out that 'it is the nature of the production function which is the main determinant of the distinction between the two activities' (1977: 5). Criteria for distinction should therefore be: the *capital-output ratio*, the *capital-labour ratio* and the *labour-output ratio*, or a combination of all three for different industries. Ward further warns that the distinction should not be based on a categorization of production units into 'small' or compared with 'large'.

Harvie proposes the *capital-intensive* criterion for distinguishing between formal and informal activities (1977: 1). Although in our view this distinction is not the same as that between modern and traditional activities, Harvie seems less clear about this. He remarks merely that one sometimes gets the impression that 'the terms "formal" and "informal" are used as synonyms for "modern" and "traditional",' without giving his own explicit opinion.

Harvie also states that the *ratio of the annual cost of capital to that of labour*, the *capital output ratio* or the *labour-cost output ratio*, are obvious measures for capital intensity. Each of the three proxies, however, suffers from some practical or conceptual problems. Estimation of the first two requires knowledge of the replacement costs of equipment, information which is often difficult to obtain, particularly in developing countries. With the third

proxy the problem is often that no imputations are made for the labour- and entrepreneurial input of the owner(s) of the establishment in question.

Harvie concludes that the simplest - and possibly the best - proxy is *size of establishment*, a conclusion based upon the assumed strong positive correlation between capital intensity of the productive technique and the size of the establishment. In general, size should be defined in terms of total employees; in the case of agriculture, however, acreage seems more appropriate, according to Harvie (Ibidem: 3,4).

S.V. Sethuraman, who argues that the distinction 'modern-traditional' largely coincides with that of 'formal-informal', indicates that in some but not all cases the *capital-labour ratio* may serve as the criterion for distinction (1977: 7).

Branch-specific criteria and proxies

Agriculture

In the agricultural sector *ratio of labour cost to capital cost* is, in Schimmler's opinion, the best proxy for the labour- and technology content of productive activities (1977: 33-34). The cost concept may be approached in various ways, but the concept to be adopted in a particular situation will usually depend upon data availability.

L.B. Donde (1977: 3) seems to suggest that *consumption of energy* (in his terminology called 'cultural energy') should be the criterion for distinguishing between traditional and modern activities in agriculture. He further indicates that this concept could suitably be measured through *horse power (HP) per hectare* (Ibidem: 4).

As we have seen Harvie considers capital intensity a suitable concept for distinction; in the case of agriculture this is indirectly approximated by the *size criterion as expressed in terms of acreage*.

Manufacturing

Schimmler (1977: 37) proposes as proxies for the labour content and technology content a *labour cost-capital cost ratio, plus a percentage of total output which should be standardized*. He suggests that one could also take a *percentage by which a combination of inputs has an efficiency advantage over another*, the idea being that efficiency advantages result from differences in technologies (Ibidem: 37-38).

Services

Due to the fact that technology is incorporated in different ways for different categories of service-rendering activities, Schimmler gives different proxies for different categories to reflect their labour content and technology content. For example, he suggests:

(a) *the ratio of labour cost to total cost* or the *labour-capital ratio* for the hotels and restaurants sector;
(b) *the ratio of labour cost to total cost* or *the ratio of capital cost to total cost* for the trade sector;
(c) the labour-output ratio for other services sectors (Ibidem: 44-45).

In Dommen's view, for certain service-rendering activities the labour and technology content is perhaps best reflected in the *degree of formal education* which is required to provide that service (Dommen 1977: 3).

It is clear that the majority of the authors who suggest criteria or proxies for distinguishing between traditional and modern activities, propose the relative amount of labour and/or capital - however defined - used in the product. The precise criterion or proxy proposed depends generally speaking on theoretical considerations, as well as on practical ones such as measurability and data availability. In this connection it may be pointed out that a criterion or proxy proposed for the classification of data that have been collected in the past may differ from that to be proposed for data which are still to be collected.

We share the view that in many cases labour or capital intensity is an adequate criterion for making the distinction under discussion. For reasons of measurability and data availability we suggest that proxies should be as simple as possible; it is our belief that more sophisticated (and usually more complicated) proxies rarely provide any substantial improvement. It is also our opinion, however, that preference should be given to those proxies which directly reflect the theoretical concept (i.e. labour and/or capital intensity). We consider, for example, that size is not a suitable proxy for capital-intensity unless one can establish that under all circumstances there is a unique, direct relationship between the two.

Although this discussion refers to criteria for dichotomous distinctions and to the classification of data according to these criteria, the same criteria may well be used for more refined distinctions, e.g. between modern, semi-traditional and traditional activities. This implies the formulation of two cutting-off points for borderline cases, rather than one. The problem of arbitrariness will again crop up, of course, and may cause considerable obstacles to further refinement.

A final point to be made is the following. In this discussion we have referred to criteria for distinguishing between modern and traditional activities, such as labour-intensity or capital-intensity, without properly defining the concept of activity. In some instances, a certain activity, say shoe production, could be broken-down into a number of sub-activities such as cutting, stitching, lasting, etc., which may show considerable differences in labour-intensity or capital-intensity. If these sub-activities are seen as complete activities in themselves, the consequence may be that some are classified as modern and others as traditional. To avoid this situation, we propose to define the concept of activity in a way that corresponds to that used in the 1968 UN ISIC classification, which defines an activity more or less as a complete production process that takes place at the establishment level. This does not solve all problems, however: in some cases more than one production process takes place in one establishment, entirely different from one another and generating quite different products. In such a case, the data of the establishment should be sub-divided into sub-sets in such a way that each set relates to the activity in question, although in many cases this will give rise to practical difficulties.

(ii) The urban-rural distinction

The rationale behind making this distinction is that there are differences between the socio-economic dynamism at work in urban areas on the one hand, and that in rural areas on the other, as a result of differences in their socio-economic structures. The differences in dynamism will generally speaking lead to differences in impact upon policy variables, so that it is of interest to distinguish between the two kinds of areas.

According to Ewusie (n.d) three criteria may be used in distinguishing between urban and rural areas:

1. population size of the locality,
2. occupational structure of the settlement, and
3. availability of basic social amenities

Criterion (1) can be expressed through the population density of the area in question; if the density exceeds a certain pre-fixed number, the area is considered to be urban, if it does not the area is considered to be rural.

Criterion (2) is measured by the percentage share of the economically active population of the area engaged in agriculture, forestry, hunting and fishing; if the actual percentage exceeds a certain pre-fixed percentage, serving as a cutting-off point, the area is considered to be rural; if it does not, the area is considered to be urban.
Criterion (3) may be made operational by attaching discrete binary values (e.g. 1 in the case of presence, 0 in the case of absence) to a number of pre-selected social amenities for

the regions in question, such as hospitals, electricity, piped water, cinemas, etc. Areas for which the sum of the values attached to these amenities is lower than a pre-fixed value (in other words, areas which lack certain amenities) are considered rural; areas for which the sum exceeds this pre-fixed value are considered to be urban.

The difference between criterion (1) on the one hand and criteria (2) and (3) on the other, is that the former does not in the first place characterize the socio-economic structure of an area, while the second and third characterize it to a greater or lesser extent, and may therefore be considered more appropriate for distinguishing between urban and rural areas. Cost considerations with respect to the collection of the data needed for each of these criteria, however, may cause the first to be adopted. It may also be argued that inasfar as there is a strong and unique relationship between criteria (1) and (2) or (3), the former may justifiably be used as a proxy for the other two. All three criteria, however, share the following drawbacks.

Firstly, the boundaries of a particular area are very often administratively defined. Irrespective of which criterion is applied and of its cutting-off point, the decision as to whether an area should be classified as urban or rural will be influenced by the administrative determination of its boundaries.

Secondly, the cutting-off point is arbitrary, whether it is population density, percentage of people employed in certain activities or (weighted) sum of social amenities.

(iii) The monetary-non-monetary distinction

The introduction of this distinction presupposes that monetary and non-monetary activities[6] are not only measured, but also that they are shown separately in the accounts. The reason for making this point is that, although the measurement of non-monetary activities in addition to monetary activities is considered by many to be important for a variety of reasons, a separate showing of each category seems to be rather the exception than the rule. Yet various good reasons may be given for making this distinction explicit. Blades, for example, mentions the following (1975: 73).

(a) *Differences in reliability.* Estimates of subsistence activities are generally less reliable than those of monetary activities, and hence have different margins of error. For this reason, estimates of subsistence activities have to be treated more carefully than those of monetary activities; this can only be done if the estimates are shown separately. In the words of Barkay:

Good figures should never be mixed with guesstimates as is unfortunately done in many cases in national accounting, not only because the components are at least as important for planning purposes as the aggregates, but also because the reliability of the totals cannot properly be judged if the two kinds of figures are not segregated. (1975: 360).

Webster (1974: 45) makes a similar point.

(b) The social and economic behaviour, as well as the socio-economic position of those engaged in subsistence activities is often very different from the behaviour and position of those involved in production for the market.

(c) For many purposes only one of the two components will be of relevance. Blades, in illustrating this point, gives examples of policies which are directed towards the monetary activities in the economy and of others that specifically aim at influencing subsistence activities. He concludes that 'separate data on subsistence output are obviously desirable both in designing such policies and to measure their effectiveness' (1975: 74).

A second issue to be raised in the context of this distinction is that of the kind of national (or social) accounting concepts to which the distinction should be applied. We think here of the concepts of 'sector', 'activity' and 'transaction'. The UN working group on the treatment of non-monetary transactions expressed as its opinion that use of the concept of 'subsistence activity' was to be preferred to other concepts. The expression 'subsistence sector' was considered to be misleading in that it conveys the idea of a separate sector in the economy in which no monetary transactions take place.

In our opinion, this may also be true of the concept 'subsistence activity', namely, when the concept 'activity' is interpreted as 'branch of activity', i.e. in a sense similar to that used in the UN ISIC. If, however, 'activity' is defined as the production of goods and services, and 'subsistence (or non-monetary) activity' as the production of goods and services for own use, most conceptual problems seem to be solved. Each economic sector or branch of economic activity (in the ISIC sense) could then be subdivided into a monetary and a non-monetary part, the former referring to that part of the output of the sector or branch in question which is not produced for own use, and the latter to that part which is intended for own use.

If the distinction monetary activity-non-monetary (subsistence) activity as defined above is adopted, the criterion for classifying data will not present conceptual problems since it follows directly from the definition. After measurement of that part of the output which was produced for own purpose and which part was not, classification can be made

accordingly. The practical measurement problems concerning non-monetary (subsistence) production and consumption will be discussed below.

3. MEASUREMENT QUESTIONS

In this section we shall raise two main issues in connection with the *measurement* of goods and services which result from activities undertaken by groups and sectors in the economy; so far these have not received appropriate attention from a social accounting point of view, but their inclusion in social accounting systems is being given growing emphasis. The first is the question of coverage: what kind of goods and services are to be measured? The second is that of the measurement methodology to be used in the estimation of quantities produced (and consumed).

Both questions are of general relevance to the various groups and sectors in a social accounting system. They are of crucial importance, however, with respect to that part of the economy whose activities are partly or wholly of a non-monetary nature, for the simple reason that non-monetary activities are generally much more difficult to measure than monetary ones. For this reason we shall refer here mainly to the measurement of non-monetary activities.

The coverage issue

Many authors now agree that appropriate inclusion of non-monetary activities in the social accounting systems of developing countries should have the highest priority, for various reasons. This raises the question, however, of which kinds of non-monetary activities should be included. Various theoretical positions could be adopted in this respect. One is that which argues that a social accounting system is supposed in principle to record all activities which are of an economic nature. This would imply that - at least in principle - all kinds of activities which take place for economic reasons should be included, irrespective of whether they are of a monetary or of a non-monetary nature. A theoretical problem in this connection is that of which productive (and consumptive) activities should or should not be defined as economic. Economic literature shows no agreement on this point.

Alternatively, the more flexible position might be adopted that the kinds of activities to be included should vary with the different purposes for which national accounting frameworks may be constructed. In effect this means that non-monetary activities are only to be covered to the extent that the information obtained is directly relevant for purposes of analysis, policy and planning. It is important to note that as a result of the increased emphasis on distributional issues the poorer groups and their activities will - or should - increasingly become

the subjects of analysis, policy and planning. Since most of their activities are of a non-monetary nature and are very varied, this will imply fairly wide coverage of non-monetary activities in the accounting frameworks. The recommendation of a wide coverage is in fact a common element in the writings of most authors who address themselves to this issue, and is often argued on the same or similar grounds to those presented here.

Before continuing our discussion on the kinds of non-monetary activities that should be included and the recommendations that have been made in this connection, we wish to stress that, irrespective of the precise theoretical position that is adopted, the enormous problems that will be encountered in the measurement of non-monetary activities must be realized if realistic recommendations are to be made with regard to coverage. These will include the lack of adequate estimation methods, financial difficulties, time constraints, etc. These problems are even more serious in the case of non-monetary activities than that of monetary activities because the former are largely carried out by small-scale producers who often do not keep accounts, who are relatively difficult to approach since they live for a large part in rural areas, whose output is not marketed and whose production, in consequence, is usually not recorded, let alone in a systematic manner. It can safely be assumed that, due to these practical problems, many non-monetary activities in many countries are not covered at all or are only partly covered by the social accounts. Examples of such a situation are given by Wood (1973) and by Fisk (1975). Wood points out that in Kenya the non-monetary production of the following goods: pottery, household furniture and fixtures, and jewelry is not covered. With regard to services that are not covered, he mentions all major services that are associated with traditional, social, religious and medical activities (Wood 1973: 106). According to Fisk, who refers to the Pacific region and more in particular to Papua New Guinea, the following activities are not covered: the production of certain clothing and craft products, certain household and village services, activities related to entertainment, sport and social occasions, etc. (Fisk 1975: 256-257).

This situation of non-coverage of many kinds of non-monetary activities in the social accounts is typical of the majority of developing countries. This conclusion can be drawn from the findings of a survey held by the OECD Development Centre among almost 100 developing countries, of which 70 returned the questionnaire, about their treatment of subsistence activities in their social accounting systems. In his report on this survey, Blades comments that

> perhaps the most striking feature ... is the considerable variety of coverage patterns among the 70 countries. Some of them - Ecuador,

Hong Kong, Panama and Singapore - cover the same, rather limited, set of non-monetary activities, and there are a further 18 countries with the same coverage as one or two others. The remaining countries cover unique combinations of the non-monetary activities shown. Although it is difficult to distinguish any general pattern ..., about 40 percent of the countries shown cover at least the following items: crops, livestock, firewood, house-building and imputed rental incomes (Blades 1975: 15).

To sum up it seems that mainly due to practical problems, (a) a number of subsistence activities are not covered or are badly covered in the accounts of most developing countries, and (b) coverage practices vary widely among countries.

Our discussion on kinds of non-monetary activities that should be included may now be continued by considering some of the recommendations that have been made on this issue. On theoretical grounds a much wider coverage is generally desirable than is found in practice, and most authors recommend the expansion of existing coverage while at the same time reconciling theoretical desirability with practical feasibility, especially in view of the serious problems mentioned above.

Firstly we would refer to the set of recommendations presented by the United Nations, which have been subjected to revisions in course of time. The revised SNA recommends the coverage of the following non-monetary activities.

(i) production of primary products, i.e. the characteristic products of agriculture, fishing, forestry, mining and quarrying;
(ii) imputed rental incomes of owner-occupiers;
(iii) building and construction;
(iv) processing of primary commodities by the producers of these items in order to make goods such as butter, cheese, flour, wine, oil, cloth, or furniture for their own use, whether or not any of these manufactures are offered for sale;
(v) production of other commodities which producers consume in their households and which they also produce for the market (UN 1968: 96).

This revised set of U.N. recommendations certainly seems to be more appropriate than the original one, according to which for *primary* producers, i.e. those engaged in agriculture and related activities and in mining and quarrying, only their primary production for own-use was to be included, while for *non-primary* producers all primary production for own-use was to be included plus production for own-use in the producers' own trade. This old set led to the exclusion of potentially large amounts of non-monetary activities of a clearly economic nature, as has been shown by Blades (1975: 48-50).

Several authors have commented on the revised SNA recommendations for coverage of non-monetary activities, and some have observed that even these are rather limited as regards the kinds of activities to be covered.

Webster, for example, remarks that while the UN recommendations cover most kinds of non-monetary activities, they apparently exclude important tasks such as collecting and transporting water and milling grain (1974: 48). On the other hand, he seems not to regret this since he argues that

> in defining many of the productive activities of household as being within the production boundary we greatly increase the problems of obtaining reliable basic statistics ... Thus although in principle the definitions we use may improve the national accounts, in practice they may result in the inclusion of more statistics of dubious reliability (Ibidem: 48).

Seers (1977: 8) mentions various non-monetary activities which may be of importance but which apparently fail outside the SNA boundaries, such as:

- the collection of primary products other than food, e.g. water, firewood, flowers, hides and skins, etc.
- certain processing activities like hand-crushing of rice and maize or the making of cloth and armaments.
- services of various kinds within the household which in a more commercial economy would be paid for (hair cutting and dressing, pulling teeth, nursing, childminding, sending messages, wedding and funeral ceremonies), or supplied by government (education, religion and medicine), but are provided by relatives and neighbours without payment on the basis of informal barter or customary obligations (which may vary greatly between tribes, districts, etc., especially between urban and rural areas and also over time).

While some thus consider that implementation of the revised U.N. recommendations implies the exclusion of an important range of activities, others say that a number of these activities have been rightly left outside the production boundary. Ndongko is of the opinion that 'such activities as water carrying, hair dressing, and the remaining intra-household services of the housewife should be excluded', his argument being that inclusion of these services involves 'the inclusion of a large number of para-economic activities with little or no parallel in the monetary sector or urban sector of the economy' (Ndongko nd:13). Apparently this author wants to guarantee the comparability between sectors of the economy. This may be achieved by excluding those non-monetary activities from the productive activities which are traditionally considered as para-economic (in this case certain domestic activities of housewives). Alternatively, it would be possible to consider the activities in question as perfectly economic - in particular when such services are also carried out by professional enterprises, like food

preparation and laundry work - and attempt to include them in the accounts for all households concerned (Blades 1975: 47).

In a general discussion on the coverage of non-monetary activities, Blades seems to adopt a flexible approach (Ibidem: 51-55). In his view, the coverage should depend upon the purpose(s) for which the accounting system is to be used, a principle use being in the field of policy making and planning in general.

In this connection, Blades considers that

> for virtually all planning applications the national accounts must give a realistic picture of the *growth* of output, income, and expenditure. To do this the non-monetary production boundary should be drawn fairly widely, since output or income increase only when more is produced not simply because a larger proportion of a fixed total is exchanged for cash (Ibidem: 53).

Monetarization (i.e. the change from production of goods and services for own-consumption to production for the market) clearly does not automatically mean an increase in output. To measure output growth properly, one has to know to what extent an increase in output sold on the market (for cash) as a result of monetarization is offset by a decline in production for own-consumption, all of which necessitates detailed information about monetary and non-monetary activities. These considerations lead Blades to conclude that

> The general lesson to be drawn from this is that the production boundary should encompass non-monetary activities which are likely to be replaced by monetary activities as an economy becomes more specialised. The prime candidates here include subsistence agriculture, food-processing, handicrafts and building. In some cases forestry activities, water collecting and crop storage will need to be included too. Because of the practical difficulties of measurement the case for including housewives' general services is considerably weaker but in countries where significant changes in female participation rates are occurring, or are expected to do so, periodic bench-mark estimates could be useful (Ibidem: 54).

Another purpose for which a social accounting system may be used is to analyze the situation of, and to formulate plans for, special target groups in the economy, particularly the poor, many of whose activities are of a subsistence nature. In this connection Blades disagrees with the recommendation of the revised SNA that subsistence activities be covered only if they contribute to the well-being of *all* groups of the population. In his opinion:

> a good case could be made for drawing the non-monetary production boundary to include fairly minor activities like firewood collection, foraging for bush products, water-carrying, land clearing, and construction or repair of farm buildings, even though only one group - peasant farmers - are involved and even though such activities may not make a substantial contribution to *total* output. The justification would be that these act-

ivities are important for a key group of the population, both in terms of their contribution to the group's total output, and in terms of the labour involved (Ibidem: 55).

It will be clear from the above that the purposes of an accounting framework are various, and that the coverage of non-monetary activities may vary accordingly. Blades is fully aware, however, of the practical difficulties implied in a wide coverage of such activities. In his words:

> The arguments above in favour of a fairly comprehensive treatment of non-monetary activities must, of course, be considered in relation to the practical difficulties of compiling the estimates, since no good purpose is served by including purely notional figures in the accounts (Ibidem: 55).

Fisk, finally, also seems to combine theoretical considerations about the production boundary with practical ones (1975: 259-60).[7] After reviewing twelve kinds of non-monetary activities in terms of their importance and their degree of difficulty with regard to their estimation, he comes to the pragmatic conclusion that six of the categories are either too difficult, or too insignificant, to justify the attempt to estimate their quantity and value. This leaves him with five for certain inclusion, and one to be included in those countries where non-monetary production in that category is significant in volume and sufficiently observable to be estimated. These are (1) food and beverages, (2) housing, (3) heating and fuel, (4) public investment, (5) private investment; and where of significant volume and observable, (6) clothing, craft products.

From the discussion above about the desired coverage of non-monetary activities in the social accounting systems, it seems that no unamimity exists among the writers referred to. The various views may perhaps be summarized as follows.

- Coverage should be dealt with flexibly, depending on the different purposes for which accounting systems may be used.
- Given certain pertinent purposes of social accounting systems, like analysis of growth, planning for poor groups, etc., coverage should be such that it allows for
  - (a) adequate comparison of monetary and non-monetary activities,
  - (b) adequate insight into the socio-economic situation of target groups in society.
- Inasfar as international comparisons have high priority, coverage should follow international conventions as much as possible, i.e. inasfar as this does not conflict with other priorities such as those indicated above.
- Coverage should be realistic in view of the many practical constraints.

Estimation procedures

It is readily admitted that any attempt to measure adequately the activities which fall under the dichotomies discussed earlier in this paper, will impose a substantial extra burden upon the statistical apparatuses of most countries. This will be not only because certain kinds of activities will need to be estimated which were previously not included in the accounting system, but also because some estimation procedures can often not be properly applied due to the nature of the activities that now have to be estimated; in many cases it seems that only the more time and money consuming procedures will be appropriate.

To take traditional non-subsistence activities, which usually occur in small-scale rural or urban enterprises, it will be clear that their measurement cannot be done by making use of information derived from detailed accounts since most of these enterprises do not keep such accounts. If reliable information is to be obtained about traditional activities, the statistical offices will have no alternative but to make specially designed surveys for the purpose which will make allownace for the fact that little of the basic data needed can readily be obtained from accounts kept by the producer. The repercussions of such surveys for the statistical office's budget will be obvious.

If the activities to be measured are of a non-monetary character,it is even more certain that records or accounts will be completely lacking. Detailed and reliable information about such activities will only be obtainable through relatively expensive, time-consuming surveys. In many countries, the absence of sufficient means to conduct the appropriate surveys results in the application of estimation procedures which are often questionable from the point of view of reliability and accuracy.

With regard to the existing estimation practices of developing countries which produce estimates of subsistence production and consumption, the various methods and approaches used are briefly outlined below.

Firstly, the data may be obtained by means of a census survey, for example as a byproduct of an agricultural census survey. Census surveys are held only once in a five or ten-year period so that such information about the subsistence sector is rarely available, if at all.

Secondly, information is sometimes obtained by means of a sample survey, in which case the total is estimated with the aid of a blowing-up procedure of one kind or another. Sample surveys are also held very infrequently, generally speaking.

Since both census and sample surveys are usually held only once in a number of years, the majority of annual estimates are obtained through extrapolation of the latest survey information. In most cases this is done by relating the survey information proportionally to the estimated increases in rural population or rural households. The un-

derlying assumption which should justify this procedure is that subsistence production and consumption is more or less constant per capita or per household. This assumption may be reasonable in certain cases but not in others. Writing about estimates of house-building activities for own use, Blades considers that it is reasonable to suppose that the average size of households is increasing in countries with high population growths (Blades 1975: 69). This implies that the housing stock is growing more slowly than total population; in the absence of more specific information, half as fast seems a reasonable guess. This example is illustrative of the situation with respect to this kind of extrapolation. Due to the absence of information from surveys one has to make assumptions which in many cases are only guesses. Needless to say, large errors are likely to result from the application of such procedures.

In our opinion, however, such a situation is preferable to one in which the extrapolation is based on no survey information at all. Although extrapolations are partly based on assumptions, they are also determined by the information from previous sample or census surveys which provide the bench-mark data.

There are cases, however, in which estimates for all years are based only upon knowledge about technical or biological ratios, such as the (assumed) lifespan of buildings, the milk-yield of cows or the laying ratios of hens, etc., which are then related to census data on population, household, number of livestock etc. If these ratios have not been obtained from reliable, represenative surveys but, for example, from government officials in the Public Works Department or the Ministry of Agriculture who rely on their general experience (Webster 1974: 47), the reliability of estimates based on such ratios may be subject to considerable doubt. For this reason, any possibility to check the ratios through a reliable sample survey, even of the smallest dimensions, should be welcomed.

In cases where (bench-mark) information about subsistence activities is obtained through a sample survey or a census survey, either a production approach or a consumption approach is used or, in a few cases, a combination of the two.

According to findings obtained by the OECD survey (see Blades 1975), the majority of developing countries base their estimates of crop production for own consumption - which in most countries is by far the most important item of subsistence production - on the consumption approach rather than on the production approach. In this connection the consumption approach is to be understood as a method which obtains estimates about subsistence production and consumption through information coming from the consumers

(e.g. through household surveys) about quantities consumed, while the production approach collects the data through producer surveys on the destination of their production. Blades is of the opinion that the former approach is - generally speaking - to be preferred to the latter, not only in the case of estimation of agricultural crops but also in the case of estimation of other subsistence output. In his view, it is clearly better to measure the consumption of own products at the time this actually takes place, than to ask producers to forecast the eventual disposal of their output (Ibidem: 56). This preference for the consumption approach is shared by Fisk who, in referring to crop production, argues that in many cases the total quantity of a crop grown and the quantity of that crop which will be used for own consumption are difficult to estimate accurately over a reasonable period of time and at reasonable cost, because both are subject to fluctuations caused by changes in seasonal conditions and other factors (Fisk 1975: 260-61)

Summarizing the recommendations which follow from this discussion about estimation procedures, it may be concluded that:

(a) attempts should be made - for example through small sample surveys - to check the reliability and accuracy of ratios which are frequently used in the estimation of subsistence activities;
(b) when sample or census surveys are used, preference should generally be given to the consumption approach; in other words, data which have been obtained through the consumption approach could be treated with greater confidence than those obtained through the production approach.

4. VALUATION

A final issue in this discussion of problems related to the improvement of social accounting systems of developing countries, is that of valuation. In the strict sense of the word, valuation means the attaching of values to quantities produced and consumed. The rationale for valuation is obviously the possibility to express the sum of different kinds of goods and services as an aggregate. Goods and services which are marketed are usually valued for social accounting purposes, either implicitly or explicitly, at one or another type of market price.

There are a number of very fundamental questions regarding the appropriateness of valuation at market prices. Since this matter also applies to accounting practices in developed countries, however, this is not the place for its discussion. Moreover, in view of the many theoretical and practical aspects involved, only an individual treatment

of the issue would do justice to it. The question to which we want to address ourselves now is of a more limited nature, i.e. that, since output which is produced for subsistence purposes is not marketed, no market price has been paid and received for those products; as a consequence, in order for it to be valuated, a price has to be imputed, for example, by 'borrowing' one from elsewhere. Questions about the appropriate kind of price to be borrowed, the procedures to be adopted for collecting and processing of prices thought to be appropriate for imputation purposes, and other related issues all then have to be considered.

With regard to the question of what kind of market price to use for imputation purposes, a distinction is usually made between various kinds of producer prices on the one hand and retail prices on the other.

The question is, which of these is the more appropriate for valuation of output? In general, the answer to this question will depend upon what is thought to be the main purpose of the accounting system. If this is to attempt to measure the general level of welfare for the final consumer which has been generated by the production and subsequent consumption of a certain amount of goods and services over a certain period of time, the use of retail prices - containing trade and transport cost - seems to be the most appropriate because it indicates what the consumer has to sacrifice to obtain the good in question. In other words, what it is at least worth to him. If, on the other hand, the main purpose is the measurement of the amounts of goods and services that have been produced during a certain period, producer prices are generally more appropriate because they reflect better the cost incurred in the production of that good.

To the extent that the use of market prices is justified at all, its application means either that retail prices are to be used or producer prices, depending on the purpose of the accounting system. As an exception to this, Billington proposed the use of retail *and* of producer prices in the valuation of subsistence output, suggesting that subsistence output should be valued at producer prices in the production account and at retail prices in the expenditure account, with the difference shown as value added by rural household services (see Blades 1975: 61).

If it is decided that producer prices are to be used, the next question is what kind.

The Revised SNA recommends that 'Producer's values should, as far as is practicable, be assigned to commodities in terms of market prices at the producing unit of identical items at the moment the commodities are produced (1968: 95 para 6.16). In many developing countries, however, the situation is such that (agricultural) products are not sold at the site of production (the farm), but at certain centrally-located buying points such as smaller or larger

markets. Hence, the prices received by the producer (farmer) may be said to contain certain elements of trade and transport costs. The question whether such prices - when used for the valuation of subsistence output - should be adjusted to an ex-farm basis by deducting implicit transport and distribution costs seems generally to be answered in the negative. Blades summarizes the general reasoning behind this answer clearly:

> In the first place, the prices concerned are already 'producer prices' by any common-sense definition; they are all prices received directly by the producer when he sells his output. Moreover, all these prices accurately reflect 'opportunity costs or income forgone' by the producer even though some of them include marketing costs, for the fact is that given the traditional system of marketing, the producer can never sell certain of his products at all, and never have any income to forego, unless he is prepared to perform transport and distribution functions (1975: 62).

A problem that deserves special mention in this discussion on the appropriateness of various kinds of prices for valuation purposes is the following. In many countries, the main or sole buyer of certain cash crops is the state which buys crops through so-called marketing boards (e.g. the Cocoa Marketing Boards in Ghana, Nigeria, etc.). This more or less monopsonistic market structure allows the government to pay prices to the farmers which are not necessarily related to the production costs (including a reasonable remuneration for the entrepreneurial activities of the farmer) of the produce sold. When the price paid is below the cost of production, it may be said to contain an element of indirect taxation which is levied on the farmers output; evidently this price is less suitable for valuation purposes. A situation that is similar to some extent is encountered when prices received by producers from traders are reduced in order to balance with the payment of interest charges on credits supplied by the traders to the producer, as is the case in certain countries. Here, too, such an affected price is not appropriate for valuation purposes since it does not adequately reflect the production costs of the commodity in question. It may be concluded from these examples that before a certain kind of (producer) price is adopted for valuation purposes, insight should be gained in the way the prices are formed. If price formation takes place along the lines indicated here, they should be corrected for the distorting effect if alternative, not-affected, prices cannot be obtained.

With respect to the collection and processing of the prices to be used for imputation purposes, the following very general observations could be made.

Firstly, prices may vary considerably over time and between different regions for the accounting period in question. The reasons for these fluctuations over time may be seasonal variation in supply given a certain level of

demand (in the case of agricultural products), shifts in demand, etc., while variation between regions simply reflects the differences in supply and demand conditions in general, as they exist between regions. It will be clear that these variations and fluctuations should be taken into account as much as possible when prices are collected.

If an average figure is used to represent the price of a certain commodity over the accounting period, sufficient information should be available about the price of the product in various regions and at various time-intervals; a weighted average is then constructed with the help of this information and the appropriate weights applied. A straightforward application of a weighted price average of a marketed product for purposes of valuation of subsistence output may not always be correct. The reason for this is that usually the weights applied in calculating the average are the quantities sold; in general, there is no reason to believe that the proportion in which quantities of a certain product are sold over time or among regions during the accounting period is the same as that in which quantities of the same product have been used for own consumption over time or among regions. Hence, it seems appropriate for valuation purposes to use weights which reflect the pattern of subsistence consumption.

Secondly, it goes almost without saying that the more frequently information is collected about the prices, the more accurate the averages will be. Country practices in this respect vary substantially. Availability of funds and accessibility of markets are usually the main determinants of the intensity and degree of coverage in spatial terms with which price data are collected.

Unfortunately, when poor data collection is caused by such factors, little can be done to change the situation in the short run.

This discussion on valuation might be concluded with a brief reference to the case in which no marketed equivalents exist for products that have been produced for own consumption, so that market prices which could be used for imputation are not available. The best known example of such a case is perhaps that of rural hut construction. Usually this construction takes place for own account and for the purpose of own-use; this type of dwelling, moreover, is hardly comparable to any other type of dwelling that is constructed for sale in the economies concerned. As a consequence it is difficult, if not impossible, to make use of a market price for valuation of the rural huts that have been constructed during the accounting period. Since the construction of huts in rural areas in many countries still constitutes a substantial part of rural capital formation, an appropriate treatment of this activity in the social accounts seems desirable. This implies that an adequate es-

timate of the number of huts constructed is needed, as well as an indication of the value of the construction for imputation purposes. As comparable market prices are not available, alternative valuation procedures should be adopted. A clear alternative that readily comes to mind in this connection is that of the sum of the costs of the various inputs that have been used in construction. Since, in many cases, labour time seems to be the only scarce input used in hut construction, it is at times proposed that the value of the labour time be used as a proxy for the value of the hut. This procedure implies, however, the application of a wage rate; an average wage rate for unskilled labour in rural areas is usually applied for that purpose. The procedure could be subjected to further refinement, however, in such a way that any other important scarce input may be similarly valuated. If these other inputs have been purchased in the market, the purchase price is used and no particular problem exists. The sum of the values of the more important scarce inputs is then used for representing the value of the product, in this case the hut.

This example is certainly not exhaustive. On the contrary, there are many instances in which a marketed equivalent of a commodity produced or service rendered for subsistence purposes does not exist. This seems to be true especially for many services in the traditional African economy (see O'Loughlin & Ewusi 1972). The alternative procedure indicated above could be applicable in most of these cases.

NOTES

1. This point is also true for many developing countries that claim to have adopted the UN Revised SNA (1968). Although this system has been designed in such a way that various framings are possible, the actual framing of the system as applied in developing countries is in many cases nothing but a copy of the framing used in the industrialized countries, for various reasons. Cf.: D. Seers (1977: 2, 4); B. Dasgupta and D. Weers (1975: 20, 29); for further critical discussion of the UN Revised SNA re its appropriateness for developing countries see also G. Pyatt and A. Roe (1977: 4-14); G. Pyatt and J. Round (1977: 339-343); M. Ward (1977: 238-239); R. Barkay (1975: 358-361).

2. See, for example, the accounting frameworks presented in Schimmler (1977), Barkay (1975), Pyatt & Roe (1977) and Tyler & Roe (1977).

3. The term non-monetary will throughout this paper be used interchangeably with the term subsistence.

4. Cf. Dasgupta & Seers (1975: 29) and Seers (1977: 5).

5. Cf. Bull (1978: 617) who refers to a social accounting matrix; the argument is however valid for any format.

6. The term non-monetary refers strictly speaking to that part of a particular activity that is not exchanged for money, but that either is retained by the producer for his/her own use (i.e. subsistence output) or exchanged for other products, i.e. bartertrade. However since bartertrade appears to be relatively unimportant for most countries nowadays (Cf. Blades 1975: 10), non-monetary activities will in most cases boil down to subsistence activities. For this reason, we will use the terms 'non-monetary' and 'subsistence' interchangeably.

7. Note that he refers mainly to the Pacific region.

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