SOCIAL MATRICES AND INDICATORS IN THE TRADITIONAL AFRICAN ECONOMY

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This paper discusses the relevance of the conventional national accounts systems to the traditional African economy and concludes that they contribute little because they omit certain economic activities and fail to recognise the reciprocity between social and economic activities. Social accounting is thus more relevant. Lack of statistical data may make it necessary to conduct special surveys and in some cases a tribe or village or economic region may be a more useful accounting unit than a nation. A modified system of accounts is suggested, based on the framework of the four consolidated accounts of the SNA. It provides linkages to many more non-monetised activities. Other linkages would be provided through supporting tables emphasising social activities and transfers. A system of transactor accounts in matrix form is also suggested. In the case of communities smaller than the nation several external transactor sectors could be included. It is recognised that the problem of evaluation of social activities and a number of economic activities remains to be solved and it is concluded that "time spent" may be the only common unit or value to equate such activities.

The final section deals with investment in human resources and proposes a balance sheet approach to indicative planning. This exercise would be related to demographic projections in several variants. Other factors to be analysed dynamically would be education and health status, public finance and, ultimately, distribution of income and wealth since it is noted that the process of monetisation is having an impact which may have important welfare implications.

1. THE RELEVANCE OF NATIONAL ACCOUNTS TO THE TRADITIONAL ECONOMY

National accounts have both a descriptive and an operational function. The national accounts that have been compiled for the African countries have only been used operationally to a very limited extent as, for example, in the analysis of the relationship between exports and income, overseas borrowing, savings and capital formation. The descriptive function of African national accounts has also been limited in that it generally describes only the "modern" sector. The gap in the figures left by the exclusion of the traditional sector is partly filled by an item called "non-market production" or "income in kind" and partly by the estimates of cash transactions made in small markets. Many services and crafts are excluded altogether.

The traditional sector in Africa is often viewed as something below the surface of the economy rather like the submerged part of an iceberg because it is not possible to describe the traditional sector in the same terminology as is used in the modern sector. It is proposed in this paper to consider whether a parallel terminology can be built up, and because of the close relationship between social and economic activities in this sector, social accounting as distinct from national accounting is particularly relevant. At this stage we are considering accounts mainly descriptive of the traditional economy but their compilation will also be guided by their future operational potential, particularly in the broad field of social engineering. Social accounts are a complement to national accounts emphasising mainly social as compared with economic aggregates and transactions [1]. In African rural societies it is often not realistic to make a sharp distinction between social and economic activities, and this is another limitation to the purely national accounting approach with its emphasis on economic transactions defined basically in the institutional terms of the Western type market economy.

Although the title of this paper refers to the traditional economy we should prefer to use the phrase "indigenous economy". The word "traditional" is frequently associated with backwardness and unwillingness to change. This stems from a narrow definition of the "traditional economy" to include only the non-monetised sector and perhaps marginal cash farming and fishing activities carried out with primitive tools. Urban areas are generally excluded from this narrow definition although towns, as far as is known, have always been a feature of West African social organisation throughout traditional or tribal regions. The indigenous economy could be defined as an area in which, for economic, technical or cultural reasons the adoption of foreign technology is constrained; but this definition also emphasises a negative aspect. Both urbanisation and the absorption of modern technology may be overweighted prerequisites of economic and social advance in some situations. Organisational and cultural factors may be more responsible for the slow rate of absorption of foreign technology than lack of capital, and this stems, often, from the failure to realise that development may involve adaptation of technology rather than its adoption. The objectives of development, its technical characteristics, its economic and social benefits and dynamics are often as seen through foreign eyes and may not bear any relation to African priorities. It is felt by some African social scientists that ultimately rural Africa may be both developed and indigenous. In such a society, the "modern" sector may have to adapt some of its imported institutions, whilst the traditional sector will also absorb some imported technology. Although there is likely to be a movement of labour from the traditional to the modern sector, development does not necessarily depend on this process and the Lewis two-sector model is an oversimplification of the situation expected to develop. Thus the indigenous sector does not wither away as economic development takes place.

The nation may not, in this context, be the most useful unit of measurement for social accounts as it is for national accounts. In Africa, regional or community accounts may be more meaningful, and for the construction of social accounts, even small units such as the extended household or the village may be worth studying. Generally the area studied would be a region served by a market town and having some degree of ethnic uniformity. Such a region may be tribal, agricultural or geographical. An administrative region is sometimes the most convenient unit but mainly because, if there are statistics available, they will be based on its confines.

Very little statistical data are in fact available for such studies as have been considered, and national data are not often available broken down into smaller areas until they are out of date. At least the absence of statistics makes it possible for us to consider the structure of our accounts without reference to the type of data available, as almost without exception special data would have to be collected. This is one of the main differences in Africa between the social accounting and the national accounting exercises. The latter rely, even in the less developed countries, mainly on existing source data. Social accounts can draw on the many types of social surveys going on in Africa and particularly on population censuses, but the main value of setting up the formats for social accounts and balances at this stage, when the collection of information is still in its infancy, is that such formats may influence field workers to take a more systematic approach towards the collection of data, and, whilst allowing for flexibility, to achieve some degree of comparability and aggregability between regions. The availability of a workable social accounting framework tied to the objectives of indicative planning could itself stimulate the studies necessary to fill the empty boxes with quantitative data. It is evident too that, as with most pioneering work in the field of national accounting, the early work would have to be done by universities and research institutes, with governments taking over at a point where the methodology was established and social accounts could be partially or wholly reconciled with the national accounts, or developed as a separate statistical activity.

In this paper we are concerned mainly with social matrices and balances, but it is not possible, even in a fully monetised economy, to make a firm dividing line between social and economic activities and this is still more difficult in the African economy. Conventions used in the monetised economy to define this borderline in the accounts may be unrealistic in Africa where economic activities often have social motivations and vice versa. Many activities are reciprocal and a social courtesy or tribal obligation may be reciprocated by a purely economic activity, the link being implicit rather than contractual. In African households, domestic and agricultural activities merge as do also trading and domestic activities. The convention that housewives' services are not evaluated is almost impossible to apply, as much work, such as milling corn, is done in the household rather than in a factory. The categories "cash", "non-cash", "social" and "economic" will be adhered to for convenience and to facilitate comparison with the national accounts, but it is doubtful whether this would be the best classification system to describe the transactions taking place within the traditional economy, if we were considering this in isolation.

Having considered (1) the general relevance of national accounts to the traditional African economy, we shall now consider more specifically (2) how an integrated system of national accounts can be adapted to reflect social activities, and their evaluation; and (3) human resource balance sheets and the measurement of investment in human resources.

2. A System of Social Accounts for the Traditional Economy

If social and economic relationships are to be adequately illustrated in the context of the indigenous economy, it is necessary to express the accounts not only by types of transaction but also by types of transactor. The former can best be patterned on the official system of national accounts with which it must be linked, whilst the latter is more meaningful if set up in matrix form giving flexibility regarding the number of types of transactors which will be different in different societies and according to the purposes of the accounts.

The first set of accounts is thus based on the four consolidated accounts of the nation as presented in the official SNA [2]. It is appreciated that this may not be the most appropriate starting point, but at least the link is provided and by adding those activities mainly of a social nature, or those of an economic nature not usually included in the accounts, we can gradually move towards a more appropriate system of accounts. The following set of accounts is designed to apply either to the "nation" or any other defined community.

Account One—Product Account

1. Gross value added (9)
   Monetary
   Non-monetary (x)
2. Imports (18)
   Goods
   Services, private (x)
   Services, public

3. Sales of consumption goods and services (6)
   Monetary
   Non-monetary (x)
4. Sales of capital goods and services (12)
   Monetary
   Non-monetary (x)
5. Exports from region (16)
   Goods
   Services, private
   Services, public

Account Two—Consumption Account

6. Purchases of consumption goods and services (3)
   Monetary
   Non-monetary (x)
7. Saving (15) (x)

8. (a) Transfers from other communities (19)
   Monetary, private
   Monetary, public
   Non-monetary (x)

9. Gross value added (1)
   Monetary
   Non-monetary (x)
10. Less commodities and activities expended in maintaining capital (13)

8. (b) Transfers to other communities (19)
   Monetary, private
   Monetary, public
   Non-monetary (x)
11. Net distributed factor income from outside community (17)

Account Three—Accumulation

12. Purchases of capital goods and services (4)
   Monetary
   Non-monetary

13. Commodities and activities expended in maintaining capital (10)
14. Net borrowing (20)
15. Domestic saving (7)
   Cash
   Kind

Account Four—The Rest of the World

16. Exports (5) Goods Services (x)	18. Imports (2) Goods Services (x)
17. Net distributed factor income from outside (11)	19. (b) Transfers from other communities (8a)
19. (a) Transfers to other communities (8b)	
20. Net borrowing	

The items marked (x) in the accounts will generally represent values derived from the social accounts and not usually appearing in the official national accounts; exceptions will be that part of non-monetary production that is usually evaluated and entered into the national accounts. If the community being studied for national and social accounting purposes is a small rural community or an enclave, it will be necessary to separate "Rest of the Nation" from "Rest of the World". For the smaller communities "Rest of the Nation" may be of greater interest than "Rest of the World" and unless the area is important in international trade the two may be amalgamated.

The items not normally appearing in the accounts of the nation may be quite important in this set of accounts when evaluated. In Africa it will be necessary to include a number of domestic and semi-domestic activities, communal services undertaken according to the tribal systems of rights and obligations and investment activities in kind, such as clearing bush, which although in theory part of the conventional system, are hardly ever likely to have been included in official estimates.

All the non-monetary items in the accounts can be divided between those conventionally included in the national accounts and those which are a result of introducing the parallel social accounting system. These items can for a first stage of the analysis be considered as self-balancing although at a later stage of sophistication this assumption may need to be withdrawn as it is quite possible for a final good or service of a non-monetary nature to have both monetary and non-monetary inputs. Gifts which are in many cases so tied up with economic transactions in Africa are a case in point. If, however, as a first analysis we list the broad heads of such activities as domestic, and semi-domestic activities such as marketing, and activities such as housebuilding and garden establishment which are in kind investment activities, the balancing items to be related specifically to the social accounts would be as follows.

Account One

Value added in domestic current and capital activities	Sales of domestic consumption services in kind Sales of domestic capital services in kind
Imports of services in kind[a]	Exports of services in kind[a]

[a]For example, customary hospitality to strangers or members of the tribe resident away from the community.

Account Two

Sales of domestic consumption services in kind	Value added in domestic current and capital activity
Transfers not recorded in national accounts	Transfers not recorded in national accounts
Savings in kind	

Account Three

Purchases of domestic investment services in kind	Savings in kind

Account Four

Exports of services in kind	Imports of services in kind
Transfers not recorded in national accounts	Transfers not recorded in national accounts

The terminology used here is such as to make possible linkage with the System of National Accounts, but clearly a terminology more in keeping with the social accounts as such could be developed. To simplify the scheme only the four accounts of the revised SNA are used but as transfers of government funds may be important in the social accounting system it may be more meaningful to use the older six-sector accounting system where government was shown separately.

The revised System of National Accounts contains a final chapter on "Adaption of the full system to the Developing Countries". This contributes little to the type of problem with which we are concerned and is clearly not intended to deal with social accounts or to provide a link between national accounts and the traditional, mainly non-monetised economy. It is, however, possible to build in some of the social activities and economic activities not usually included in the national accounts to the format set out in this section of the SNA, under the heads of Product, Disposition and Inputs.

The system discussed so far can hardly be called a social accounting system. It is an interpretation of the national accounts which enables a social accounting system to be linked with it. Numerous supporting tables can be developed and some of a mainly social accounting nature can supplement the predominantly economic accounts used in the present format. In particular, if a four-sector system is used several supporting tables will be needed to indicate the extent of government transfers to the community of the survey. Examples below suggest a format for (a) Health and Welfare services and (b) Education. Finally, (c) Total transfers to/from the community are shown.

It is generally the case that monetary net benefits from such services and transfers as have been considered are below social net benefits. Cost-benefit analysis using shadow prices, for example, for education services could be expressed in the same system of tables.

Finally a table can be drawn up to indicate all taxes paid to the central government by the survey community. This total matched against the net monetary benefit from the services provided will indicate whether the community

(a) Health and Welfare Services Rendered by Government to the Survey Community

Type of Service	*Total Cost*	*Less Receipts from Fees*	*Net Monetary Benefit*
Hospital: in-patient			
Hospital: out-patient			
Medicine and drugs			
Public health			
Sanitation			
Family planning			
Social welfare			

(b) Education Services

Type of Service	*Total Cost*	*Less Receipts from Fees*	*Net Monetary Benefit*
Primary school			
Secondary school			
Special school			
Commercial and technical education			
Universities			
Other			

(c) Summary of Value of Monetary Costs and Benefits to Community of Government Services

	Total Cost	*Fees Collected*	*Net Monetary Benefit*
Health and welfare			
Education			
Law and order			
Economic, agriculture, etc.			
Public works			
Subventions to local governments			
Transfers to individuals			

is in a net debit or credit position. This figure in total may not be of particular interest and it may be somewhat difficult to derive a balance in relation to the social services such as health and education alone as this would mean obtaining information on the tax status of the individuals benefiting from the services.

All the accounts and tables discussed so far are based on type of transaction rather than type of transactor, but the latter may be a more meaningful distinction in the African traditional economy. Transactor accounts conventionally appear in input–output or matrix form and this convention can well be adapted to the categories of transactor appropriate to the traditional economy. If the survey community is small it may be necessary to have more than one outside or "rest of the world" sector.

The following lists relate to the two types of transactions matrix classified by type of transactor: (a) an internal transactions matrix with only one external sector, and (b) an internal/external matrix in which there are fewer internal sectors and more sectors external to the community. In the completed matrix there would, of course, be both a column and a row for the sectors listed below.

1. *Internal Matrix*

Suggested Sectors

1. Agriculture, forestry and fishing: cash
2. Agriculture, forestry and fishing: non-cash
3. Agriculture, forestry and fishing: export
4. Pottery
5. Distilling and fermenting
6. Weaving
7. Woodwork
8. Mechanical
9. Construction
10. Native medicine and juju
11. Tribal administration
12. Local administration
13. Capitalist industries
14. State industries
15. Domestic services
16. Marketing and distribution
17. Transport etc.
19. Savings and investment
20. Rest of the nation and world

2. *Internal/External Matrix*

Suggested Sectors

Internal

1. Local agriculture, forestry and fishing
2. Craft and cottage industries
3. Capitalist industries
4. State industries

5. Marketing and transport
6. Domestic services
7. Local and tribal government
8. Savings and investment

External

1. Externally based trading firms
2. Externally based banks and monetary institutions
3. Central government
4. Churches
5. Other traditional communities
6. Churches and missions
7. Other (modern sector)
8. Merchandise trade, Agriculture
9. Merchandise trade, Other
10. Etc.

Up to now, the whole question of evaluation has been evaded. A great deal of literature now exists on the evaluation of non-market production in the national accounts. Reasons have been given [3] for favouring a consumers price and reasons for favouring a farm-gate price [4]. The 1968 United Nations system of national accounts recommends that "Producers price in local markets" be used. This has the advantage of flexibility since there are usually several different alternatives in defining "markets", "local", and "producers price". It can hardly contribute to the adoption of a comparable methodology. This definition and most of the literature to date relates specifically to non-market agricultural production which usually gets included in the national accounts. Generally there are cash markets for products similar to those evaluated so that some market prices are available. A convention of this type is essential if one is to allow for these aggregates being included in the formal monetary national accounts. Such services as are included can, if rendered free, also be evaluated in terms of local labour markets; although these may be more difficult than product markets to define.

There is perhaps little more to be said on the subject of evaluation in relation to the orthodox economic accounts, but the question remains as to whether any market price is relevant to goods and services when the greater part of production does not enter into a monetary market. In Central Africa certain food products may be produced wholly for home consumption whilst other products are important in cash markets. Many of the non-cash services and obligations to which we have referred have no monetary parallel although they may be an important element in total welfare. The only common unit of value with which one can compare, let us say, a tribal social service rendered free with non-monetary or monetary agricultural production is time taken. In the last analysis "labour time" or even "life time" is the basic scarce resource. One is thus driven increasingly towards thinking in terms of a labour unit of value and this would involve weighting for different standards of skill, education, and, probably, where a hierarchical tribal structure exists, age or other measure of importance. Taking a community as a whole the manpower, educational and health balance sheets discussed below could also be used for evaluation of the human input into the whole range of social and economic activities. These balances would also be of use in measuring the potential of a community for economic and social development. The question of seeking a new approach to evaluation of non-cash goods and services in the indigenous economy is such a large one as to justify being set aside for consideration elsewhere, whilst we must admit that until some conventions are worked out our "empty boxes" already referred to will remain empty.

In many African communities the degree of monetisation of social services is changing quite fast as tribal obligations to the orphaned and aged, for example, decrease and state obligations increase. In some European communities, whilst relatives accept responsibility for the care of the aged, they may pay for them to be cared for in private, voluntary or state-owned institutions. This pattern does not seem important in Africa and it would seem that the declining acceptance of family or tribal responsibility will be replaced by state responsibility. This changing pattern of monetisation in social services is more apparent where urbanisation is proceeding at a fast rate. Mukherjee [5] has drawn attention, in relation mainly to goods, to the effect that increased monetisation of the economy can have on money and prices and in some African countries the monetisation of social services could well increase faster or as fast as that of goods if urbanisation is rapid or if there are other influences reducing the responsibility of the traditional society to provide for social welfare on a non-cash basis.

3. Investment in Human Resources

"Development of human resources" is becoming an increasingly important policy in Africa. It is frequently emphasised by political leaders that Africa should not depend on outside institutions, ideas, technocrats and capital; or, by the more nationalist states, even on outside aid and trade. Stated policies of developing human resources have, however, not always been put into application, many African countries preferring to seek loans and grants for prestigious infrastructure projects rather than transferring funds from the modern sector to the "bush" where the vast majority of the population live. Without entering into the political and economic arguments for and against Africa being more or less dependent on "the West" for her development; it might reasonably be argued that, whilst the establishment of large scale western type economic institutions mainly concentrated in the "modern" sector has not been conspicuously successful, the improvement of the indigenous sector via human resource development has not yet really been tried. In many of the African countries some 90 per cent or so of the people are illiterate and it is not inconceivable that between 50 and 70 per cent of the working population are suffering from preventable health conditions which impair their economic effectiveness, these often being linked to malnutrition and bad dietary patterns which also cause disease and early death in vulnerable groups such as young children, pregnant women and the aging. In many countries the larger part of money income is generated in the modern sector or in the mining or specialist agricultural areas and a policy of human resource development may require large cash transfers from these areas to the predominantly non-cash or indigenous economies. When a country can be clearly divided in this way it is desirable for social accounts to be set up by regions which reflect these geographic areas. As with social accounts discussed above, we cannot assume that data will already be to hand for the construction of human resource balance sheets, but they may be easier to accumulate or to derive from censuses and other official records.

The balance-sheet approach to the measurement of human resources underlines the fact that expenditure on health improvement and education is essentially investment expenditure. When integrating social accounts with national accounts it may be necessary to adhere to the usual national accounting convention on this issue but it is difficult, in any society, to accept such expenditures as having no investment significance in the context of social accounting and it is particularly difficult when the objective of the exercise is to seek a measure of the returns from investment in human resource development in the indigenous sector.

We shall need, therefore, for the purposes of our study tables which indicate the balance sheet position of human resources at at least two points in time—the base period and the present or projected period or periods. Population censuses can supply quite a lot of the items required for these balances but they will need to be supplemented with special surveys, most of which can be carried out on a sample basis. The inadequacy of vital registrations in Africa have been the subject of several recent studies [6]. We can look forward to faster improvements in this field, but up to now vital registrations are not universal in all African countries and statistics on morbidity, internal migration, and practically all fields of education have generally been deficient.

The balance sheets for the various points in time will be linked by an annual series which shows the increment (or decrement) attributable to each year. The balance sheets could be prepared first utilising information obtained mainly from official sources and thus emphasising the impact of the "modern" sector, but increments attributable to an improvement in, for instance, a traditional skill, and owing little or nothing to formal education, should not be excluded. The following items could be included in the balances and linking series.

1. *Education and Skills*

(All items should be classed by selected relevant age groups and sex.)

(a) Numbers in the population with specific educational attainment, i.e., primary school, middle school, secondary school, technical school, university, etc.
The number completing education under the above heads during the accounting period. Losses.

(b) Numbers in the population having specific skills such as woodworking, weaving, specific agricultural skills mainly not related to formal education.
Increment to the above in accounting period. Loss through death or disability of craftsmen.

(c) Number of school places, specified by type of institution and measured by some agreed standard based on equipment, floor space, etc.

(d) Additions and retirements of above.

(d) Number of teachers and instructors available, classed according to qualifications and years of experinence.

(e) Increments and retirements from above in accounting period.

It might be desirable to classify educational items of the capital stock as listed above in groups such as "agricultural", "general" and "craft".

2. *Social Welfare and Health*

(All items to be classed by selected relevant age groups and sex.)

(a) Incidence of specific identifiable diseases and health deficiencies in total population.

(b) Incidence of malnutrition and specific dietary deficiences.

(c) Mortality with causes.

(d) Housing and sanitation by classes of housing.
Increments and losses in housing and sanitation during accounting period.

(e) Health centres, clinics and hospitals; class of facilities, size, equipment available.
Increment and decrements in accounting period.

(f) Numbers of public health personnel classed by qualifications, training and experience.
Increments and decrements to health personnel in accounting period.

Other allied services such as family planning, sanitation, and water supplies can be treated on the above lines with relevant variations to the classifications. Although the balance sheets will first be set up in relation to a base period the only way to gauge the totality of the problem of change is in the context of a dynamic demographic framework. For some stated future period, targets can be set up for improvements in the balance sheet position as regards say education, health, or sanitation. In the past, indicative planning has usually been related to three operations: (a) the description of the base period, (b) the application to the base period of growth rates, and (c) the presentation of the target year data which will be a result of the first two operations. For indicative planning in relation to human resource balance sheets, however, it is suggested that a different order of operations be pursued as follows.

(a) The first step would be description of the base period, by setting up the balance sheets with current or recent data. (b) Population projections would then be made for a period of ten to fifteen years. These should be made by age groups, probably one or two year age groups up to the age of twenty and thereafter in five year age groups. These population projections would be made in several variants according to the assumptions regarding fertility, mortality, birth control, etc. Computer facilities which are essential for this type of study are available in most African countries. (c) Balance sheets would then be constructed for the target year. These would be related to targets of improvement which seemed realistic in the time period and in the light of the country's resources. They would be set up by specialists in the various fields and related to the population projections. (d) The cost of obtaining the targets would be worked out and growth rates linking the base period to the target period derived. (e) Reconciliation of targets and derived growth rates as between the various areas of development would be worked out; social targets and their cost would be related to economic targets. It is possible that several trials would have to be made before targets produced realistic growth rates between the base and the target years.

An important link between the monetised social services and resource allocation will be the public finance projections and it is important to view the public finance aspects of social accounting in Africa in a dynamic population setting. Forward planning of this type will not only improve the standard of public finance and the allocation of public expenditure but will enable the relationship between expenditure on social services and resulting increases in economic efficiency to be measured. Many of the benefits will take some time to evolve but others will appear in a relatively short period, for example quite early and dramatic results in increased agricultural efficiency have been experienced after specific expenditures have been undertaken on disease control and nutrition in some parts of Africa.

In addition to the social balance sheets described, manpower balances will be required for any indicative planning exercise, and will be an important link between the mainly social and mainly economic accounts relating to the community in question. Whilst it might be expected that manpower will move from the indigenous to the modern sector, our interpretation of social and economic development in rural Africa does not adhere to the assumption, made by some development economists, that the indigenous sector will wither away as development takes place. Labour values in the indigenous sector may thus involve special measurement problems. Conventional manpower balances and statistics may be used in the modern sector and anywhere where employment is mainly on a wage-earning basis. In particular, where new industries are developing, even if on a small scale, it may be of interest to make special studies of their need for particular skills and the skills available, and to relate the results to the education and training projections. This of course is no new approach; but in spite of planning along these lines having been in progress in many countries for the last ten or fifteen years, technical and management skills are inadequate in most African countries. In many cases insufficient allowance was made for loss of trained people to higher paying places or occupations. In very few cases does it appear that the trouble is due to industrial growth having exceeded the target and, no doubt, the trained manpower constraint has been important in keeping industrial growth below target attainment.

It is not appropriate to consider the subject of manpower in the traditional economy in the same way as in an industrial or mainly wage-earning economy. It is well known that the conventional measures of unemployment and underemployment are difficult to apply in rural Africa and careful consideration of the meaning of manpower in the rural areas can guide us also on the problem of its measurement.

In developed countries, particularly in towns and cities, the day tends to be divided in specific sections allocated to work for monetary gain, recreation and leisure, domestic work, and rest. This pattern goes on through the year only being interrupted by holidays. There are differences in the routine of different sex and age groups, for example, infants having more rest and recreation, teenagers having more education and recreation, adult women having more domestic activities. In Africa the pattern changes according to the agricultural cycles for the dominant crops and although tasks are allocated to sex and age groups, domestic and economic activities merge. The labour force includes children who often perform important economic functions. Generally, in the simpler economies labour will be available when required for domestic or communal activities because the amount of land to be cultivated will be related to labour availability. Labour may not necessarily become available if a commercial undertaking sets up in the vicinity even though there is little or no alternative cash employment and even though it may appear to the outside observer to be a period of rest and recreation in the community. The wage may be too low if opportunity cost is measured in full socio-economic terms and not purely in terms of alternative cash employment. Such a measurement of opportunity cost involves considering all the other things that a man can do with his time and not just those that return cash income. What may to the outsider be classified as recreation can be part of a social pattern in which social obligation and economic benefit are inextricably mixed—for instance the enormous amount of time spent at funerals is such an activity. With this in mind the concept of zero marginal productivity, which is frequently used by planners, may have only limited value, although it may become more useful as the communities become more monetised.

The tables that we have described in relation to the stock of education and skills can serve also as basic manpower tables. It will be necessary to classify the data by industries and occupations. In relation to communal work and work done for the family or tribe on a non-cash basis, it will usually be found that leaders or chiefs know the manpower available and what each person on whom the obligations fall can do. It should thus not be difficult to have written records kept of manpower available and hours or days worked on the different activities.

Even in relation to monetary income alone, it has not been easy to get data on income distribution [6]. But changes in income distribution obviously have such an important welfare impact as to make it desirable that accounts should ultimately be able to reflect them. With the extension of monetisation, people such as chiefs, who may have the power to weaken communal and strengthen personal control over assets such as land with income-earning potential, will tend to do so; and there is evidence that many government agricultural extension programmes benefit the larger scale farmers as compared to the smaller farmers. In West Africa school fees are quite high and the system of education therefore tends to accentuate the "immiserisation" of the poor. At present no specific recommendations can be made regarding the building of indicators into the social accounts that would reflect the changes in income distribution, but it is a subject which should ultimately receive attention if the accounts are to reflect all the important welfare aspects of change.

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