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Discussion Paper 15

# **QUALITATIVE INDICATORS OF DEVELOPMENT**

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by

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## Preface

Measurement and analysis of socio-economic development through a system of indicators has constituted a major theme of UNRISD's research programme since 1963. This has comprised conceptual and empirical work in selection of indicators; compilation and evaluation of data for a large number of countries; analytic work on interrelations of indicators and the relationship between social development and economic growth; and critical examination of the comparability and validity of internationally available data in such fields as poverty, income distribution and conditions of children.

At its fortieth session, the General Assembly of the United Nations invited the Institute's participation in a project for study of "patterns of consumption and related socio-economic indicators" (later identified as "qualitative indicators"). In response to this resolution, and to subsequent related resolutions of the General Assembly, the Economic and Social Council and the Statistical Commission of the United Nations, the Institute commissioned country case studies in Côte d'Ivoire (by José Trouvé), India (by K. Sundaram and S.D. Tendulkar), Kenya (by Judith Heyer) and Morocco (by Pierre Vellas), to examine relevant national experiences in relation to the use of qualitative indicators of development.

The present paper (with minor changes) is a report on the case studies, submitted by request to the Statistical Commission for its 1991 session. It summarizes major points and conclusions of the studies, adding information and commentary based on past work at UNRISD. The report contains proposals for improvements in methods used to assess and monitor living conditions. While there is no consensus in the case studies on a specific set of indicators, the items on which there is a modicum of agreement are indicated.

On the basis of information in the case studies, the report stresses the risk of data overload in developing countries, as a result of long questionnaires and a heavy programme of successive comprehensive surveys, or as a result of substantial enlargement of samples to meet the requirements for district level data and other disaggregations.

A two-pronged approach is suggested in the report, consisting of (a) "light" surveys, supported by (b) in-depth enquiries in a relatively small number of "sentinel" or "observation" areas. The light surveys would contain only a small number of essential questions on key items. Problems thrown up by the light surveys would be further investigated by means of the in-depth studies in the selected areas which could be used also to obtain information in respect to other items where routine national survey questions appear inappropriate and where intensive probes and observations would be more suitable.

It is a conclusion of the case studies that identification of indicators or data collection may not be the only major problems in some national reporting systems. Delays in data processing or drafting of reports, seriously delaying issuance of the results, may undermine their effective use.

The organizational framework within which statistical work takes place is discussed in some of the case studies, including questions of suitable forms of co-ordination between producers and users of data, the role of the international community, and the role of demand for data by governments.

The authors of this paper have in the past worked extensively on social indicators and on the improvement of development data. Donald McGranahan is a former Director of UNRISD who has written widely on questions of measurement in the social field. Wolf Scott is a former staff member, author of several publications on the same subject. Claude Richard is a statistician and staff member of UNRISD.

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Dharam Ghai  
Director

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## Introduction

The present report, prepared at the United Nations Research Institute for Social Development, is in partial fulfilment of requests in several resolutions and recommendations for an enquiry into "qualitative indicators of development".<sup>1</sup> Information from four country case studies that have been carried out for the project is reported in this paper.<sup>2</sup> Additional information and commentary by the Institute has been included as judged appropriate. The number of case studies is smaller than originally intended and narrower in geographic coverage, owing to limitation of resources.

The project on qualitative indicators of development as set forth in the above resolutions and recommendations, is broadly conceived and intended to serve several purposes:

(a) to help orient national development and support international co-operation by helping governments to formulate and follow policies better geared to the well-being of the population (Economic and Social Council, 1989);

(b) to promote the evaluation of progress (General Assembly, 1990);

(c) to promote the application of concerted objectives (General Assembly, 1990);

(d) to provide early warnings regarding conditions that demand attention and action (General Assembly, 1990).

As one of the country case studies notes, the same indicators may not equally serve the different purposes. The monitoring of progress over time requires a strict comparability and consistency in definition and data collection method; this can make it difficult to apply to monitoring improvements in definition and data collection methods adopted in work serving other purposes.

### The meaning of "qualitative indicators"

While "qualitative" is often used in social science in opposition to "quantitative", it is not so understood in this project. According to the 1989 Economic and Social Council resolution, the concern here is with "numerical indicative objectives" and "the adequate level of satisfaction of basic economic and social-cultural needs in regard to food, housing, clothing, education, health care and necessary social services". Typical qualitative indicators are here taken to be indicators that give the percentage of the population (or of a population group such as children or women) having or not having a defined quality, such as literacy, or meeting or not meeting a given standard of adequacy with regard to some condition of living such as food consumption. Indicators may show not

1. General Assembly resolutions 40/179 (1986) and 44/234 (1990); Economic and Social Council resolutions 1987/6 and 1989/4; Statistical Commission, Report of the Twenty-fourth Session, E/1987/19, recommendation in para. 140 (e), Report of the Twenty-fifth Session, E/1989/21, draft resolution II.

2. *Eléments pour l'approche des indicateurs sociaux en Côte d'Ivoire*, J. Trouvé; *Measurement of Living Standards in India*, K. Sundaram and S.D. Tendulkar; *Monitoring Living Conditions and Consumer Patterns: Kenya Case Study*, J. Heyer; and *Projet d'élaboration d'indicateurs sociaux qualitatifs du développement* (Morocco), P. Vellas.

## **The Data Sources for Qualitative Indicators**

only the percentage falling below a given standard but also how far below they fall; or they may simply yield a distribution along a scale with the adequacy level left for subsequent decisions. In practice, the relevant indicators are much the same as those employed in measurement of "levels of living", "basic needs", "social development" or "human development".

Statistical data for the indicators under study are derived primarily from three main sources: administrative records and registrations; censuses; and sample surveys, especially household sample surveys. Indicators for which data may be collected by one data collection method may not be obtainable by other methods, or not obtainable in satisfactory form. Different methods of data collection may give quite different quantitative results for the same indicator in the same country or area (as may also different methods of estimation in the absence of direct data). This will be illustrated below from country studies. Unfortunately there is in general relatively little scientific validation of quantitative results in this field - validation, that is, by tests comparing results obtained for a particular indicator, using a particular method of data collection for a given group, with indisputable facts known independently about the test group. While complete assurance of the superior accuracy of one method over others can not be claimed, indirect considerations (including the known quality of the collection machinery) may suggest that one method will probably give better results in a particular situation than another. Variations within the same method, such as variations in ways of measuring literacy by tests, or variations in wordings of sample survey questions about consumption, can also produce significantly different results, with questions of validity left unanswered.

### **Administrative records and registrations**

Administrative records and registrations, already on hand because originated for other purposes, are the least expensive and most easily available statistics for use in developing countries to measure living conditions. Unfortunately, they are also the statistics most likely to be seriously inaccurate or to dictate use of indicators of poor quality. Conventional registration systems of vital statistics, although yielding good indicators (of infant mortality and other age-specific mortality rates), are incomplete in most developing countries. None of the case studies suggests their use for obtaining data on basic health indicators. Hospital beds per 10,000 population is an example of a widely available indicator of health that is also a poor quality indicator because of problems of geographical mal-distribution of hospitals and inaccessibility to lower income categories of the population. The unreliability of hospital records has also been noted in the case studies. In education, one of the most commonly used indicators derived from administrative statistics, namely school enrolment as a percentage of school age population, is sharply criticized in two of the case studies for inflated and

vacillating figures and for mistaken assumptions about ages of children enrolling in the schools.

While administrative statistics and registrations, which have been designed for purposes other than measurement and monitoring of living conditions, are frequently fallible, the collection of statistics by these techniques can often be improved to give more satisfactory data. This may involve restructuration of the method of collection. In India, a "sample registration system" combining sampling of areas with carefully supervised registration has been established for two decades, with apparently successful results.

As described in the India case study, a number of villages (or parts of villages if the population exceeds 2,000) and urban blocks are selected. In each, data on births, deaths and marriages are collected by a local part-time registrar (e.g. a teacher). Independently, a supervisor conducts every six months a survey of households to collect the same data. The results are then compared and discrepancies removed as possible. As of 1987, 4,149 villages and 1,873 urban blocks have been included in the scheme which provides vital rates at union and state level and for a small number of natural sub-areas within most of the states. As a result, India is one of the few countries without a comprehensive vital registration scheme that can nevertheless supply reliable vital data on an annual basis.

It has been suggested in the literature that greater use might be made of available administrative and registration statistics by compiling systematic inventories of relevant community facilities and mapping their distribution in a country. This could involve use of available information on electricity, telephones, postal facilities, transport facilities, health facilities, education facilities, etc.

### Censuses

Censuses have the advantage that they cover the entire population and permit numerous kinds of breakdowns of data (if the data are appropriately tagged). This permits identification of groups in special need when relevant questions are asked. Censuses provide a necessary informational basis for many indicators that by their structure require knowledge of the size of the total population (e.g. all per capita type indicators) or knowledge of the size of one or other population subcategory such as school age populations in educational indicators, labour force in employment indicators, etc. They also provide a background framework for sampling procedures in sample surveys. Information on population, particularly population structure, in successive censuses is a basis for making estimates of values on age-specific mortality indicators and life expectation when more direct data are lacking. Studies using census data often take a random sample for examination.



On the negative side, censuses are taken only every 10 years or so, sometimes less often, and four or five years or more may be required before results are processed and published. Censuses are quite unsuitable as the source of information on indicators that may change significantly within the course of a few years. Furthermore, censuses are generally overloaded as is, and not able on a regular basis to take on a substantial number of items related to qualitative indicators. The Kenya study reports that the 1979 population census in that country, although relatively unambitious, has not yet been produced in full; the third volume is still to be issued and the fourth volume on socio-economic issues has in fact been abandoned because its production conflicted with preparations for the 1989 census. Very often censuses do not have the trained staff to deal with social indicator questions, particularly at the field level. Yet, while censuses do not generally cover the range of information needed for assessing and monitoring social development, they still play an indispensable role and the increased number of countries conducting censuses in recent years has considerable significance for the measurement of living conditions.

### **Sample surveys**

Sample surveys, especially household sample surveys, have long been regarded as the most promising approach to measurement of human well-being. The sample survey has advantages of flexibility, capacity for dealing with a range of topics in successive rounds and for covering a fair number of different items in the same round, permitting study of interrelations. It is more manageable and cheaper than a census and on a number of items it is considered to be more accurate.

The flexibility of a sample survey permits a variety of different approaches in data collection, separately or in combination: specific factual questions to respondents; questions soliciting opinions, attitudes or general evaluations of adequacy of living conditions; direct observations of adequacy or deficiency in various items by trained interviewers or accompanying experts; direct measurements as of living space in the house, or of weight of food consumed (favoured some years ago but in practice found to be too cumbersome); measurements of children's height and weight in relation to each other and to age (a more recent popular approach to nutrition measurement).

Yet sample surveys also have their problems when used to gather information on indicators of living conditions - problems and difficulties that do not invalidate the method but call for a very careful approach in planning, pre-testing, executing and analysing surveys.

A national or regional sample survey should give appropriate representation to all population groups but in practice coverage is often incomplete of people living in places of difficult access (jungles, mountains, forests, swamps, river deltas, etc.), places that cannot be reached by interviewers' jeeps plus a short walk. Shantytowns can also be difficult to

cover for various reasons, as well as people without fixed dwellings in city or countryside, and nomadic populations (nomadic people are generally not included in Kenyan surveys). Population groups escaping coverage, however, are likely to have some of the more serious deficiencies in living conditions and should receive more than usual attention rather than less than usual attention.

Since the sample size required to obtain results within an acceptable range of probable error varies but little with the size of the population being sampled, a national sample survey (with the same amount of disaggregation) absorbs a much larger proportion of the financial and human resources of a country of small population than of a country of large population with equivalent level of development. Furthermore, a survey of the population of a region within a given country requires almost as large a sample as the overall national sample (if done separately); or a substantial increase of the national sample so that the regional sample will reach the necessary size. The same is true of surveying subgroups of the population. A very large - generally an impractically large - sample is needed in the case of an indicator like infant mortality rate which should be based on a representative sample of infants born within a given year (with number of births related to a relatively rare event - infant death - that has high variability).

A final problem of sample surveys is the fact that the results are subject to inaccuracies in the replies of respondents - inaccuracies due to failure to understand the question or understanding it in a way far different from that of the surveyors; or due to desires to please the interviewer or portray oneself in a good light or in need of assistance, etc.

Response inaccuracies appear to be particularly a problem in the case of questions that involve a time frame and a reliance on memory: questions on what the respondent or his family ate during the last week or month or year or earned as income; or the frequency of use of health services; or the number of infants that died during the last year. Conspicuous failure to recall food consumption accurately over a period of more than a day or so, also to recall correctly the frequency of use of health services, has been shown recently in controlled experiments where actual food consumption and actual use of health services have been known and recorded. People in such experiments have been found not only to forget what (and how much) they have eaten but also to recall eating things that they in fact did not eat. Moderate improvements in recall have been made by changing the method of questioning to adapt it to the ways of thinking and of effective remembering of the subjects. In general, there are reasons for uneasiness about the widespread use of recall questions in household sample surveys when used without pre-testing and validation.

While national sample surveys encounter difficulties in carrying out extensive disaggregations in situations of limited resources (see below) and are therefore not easy to use to study disadvantaged groups, they can more readily meet the purpose of monitoring. The object in

monitoring is to capture change. Usually this is done by comparisons at two or more parts of time. The same questions can be asked in successive rounds of household surveys. Changes that have occurred in the household over the previous 12 months can also be ascertained directly. As regards employment, for example, household members can be asked whether they have lost their job or found one within the year, whether the remuneration has changed. They can be asked whether a child who was enrolled at school has withdrawn from school (it is reported in the Côte d'Ivoire case study, for example, that parents had withdrawn their children from school because there were now fewer opportunities for urban employment). As suggested in the Morocco case study, a question might be added also on changes in general satisfaction of the kind: "Do you consider that you are now better or worse off, or about the same as a year ago?", and if the answer is "better" or "worse", the reasons are ascertained.

#### **Data overload, costs and innovative techniques**

The case studies, particularly for India and Kenya, point out the problems of data overload in household sample surveys that involve extensive disaggregation, and/or use of long questionnaires (some in India taking five hours of interview). Resulting data masses are difficult to record, process and report in a reasonable time, especially for countries with limited staff and facilities. The Central Bureau of Statistics (C.B.S.) of Kenya, which expanded its coverage by extensive regional and district disaggregation, fell far behind in processing data and getting out reports. Reports on surveys covering questions related to indicators of the well-being of the population have been seriously delayed or given up. Some have taken five years before reaching publication, others have still not been published after seven years or more. The goal of up-to-date information to guide policy was not achieved. Policy makers in the government in fact tend to use informal channels of information to get up-to-date intelligence.

India, faced by heavy data masses, is currently carrying out experiments on "one-shot" questions, as on adequacy of food consumption in the last year (discussed below) which if effective would reduce the complexities, costs and delays of long questionnaires that seek to determine the composition of total food consumption and the amount of each item consumed at sampled intervals in the year.

In other countries there is a movement toward what is called "light surveys", using questionnaires of limited length in the annual rounds. This is the approach proposed by the Moroccan Direction de la Statistique which plans to "install a system of 'light' surveys" to observe and monitor the level of living in the population of Morocco. This arrangement will complement the detailed surveys of consumption and household expenditure which will take place every ten years". A twofold approach, which derives from the experience of data needs for planning and other administrative purposes, is proposed in the study of Côte

d'Ivoire, namely to have in a first phase "light" surveys, followed as necessary and appropriate by in-depth surveys in selected "sentinel areas".

The light surveys would contain only limited and most essential data items and would use as possible summary questions to confine the schedule to a reasonable length. The sample would be large enough, however, to give adequate results compatible with the required degree of disaggregation so that the key groups would be adequately covered. The frequency for some items would be annual to provide as recent information as possible (with a lesser frequency for items that change slowly). The results of the light survey could in part serve as "warning signals" (in the words of the Côte d'Ivoire study). Problems thrown up by light surveys would be dealt with, as appropriate, by means of in-depth studies in the **sentinel areas**. The problems would be signalled by the light surveys but not described and studied in detail by means of a long list of questions in those surveys. The sentinel studies would cover areas where the problems in question appear more evident. Intensive coverages of small areas jointly with national or regional data is a technique that has been explored in several investigations. As most household surveys are organized in at least two stages, of which one stage is the village or urban block, the sentinel areas could correspond to this earlier stage. A small carefully selected number of areas would suffice.

Sentinel areas of this kind can be used also to obtain information in complex fields such as urban slums, in relation to informal sector activities or in respect of items where routine questions in surveys appear inappropriate but where intensive probes, observations and measurements would be more suitable. This could include information on certain problems that critically affect living conditions, such as environmental issues, alcoholism or drug abuse, and multiple employment.

Innovative "sentinel posts" or "observation areas" have now been experimented with in several countries, including Kerala, India (where the project was originated by UNRISD). They have sought to obtain in-depth information while at the same time fitting into the overall state system of information collection in use for development policy. An underlying assumption of UNRISD work in this field has been that social development needs to be understood in terms of forces at work and interactions at the local level, not solely in terms of aggregate indicators interacting as abstractions at the national level in complex models.

Other examples of innovative and possibly low-cost methods of data collection include systematic use of key informants, as in work at ILO (in the case of employment markets), greater use of community rather than household or individual data, as by mapping of facilities as mentioned above; and the work initiated at FAO, WHO and UNICEF on food surveillance.

## Indicators

The World Bank in its **Living Standards Measurement Studies** has equipped each separate team of field workers with a vehicle to ensure high mobility as among sample localities and with micro processors so that data can be immediately entered and verified, thus avoiding congestion at the central office. Reports on the effectiveness of this procedure should provide interesting information.

### General observations

Most indicators of living conditions, particularly those using readily available data, are indirect approximations rather than direct measurements of what they are intended to measure. For example, indicators of the health status of the population include indicators of presumed causes of (inputs into) good health: per cent of GDP or government budget spent on health, number of doctors or hospital beds in relation to population, per cent of rural population covered by rural health services, number of children vaccinated for specific diseases. Or they may measure presumed consequences of good health or bad health: life expectation, infant mortality rate. Indicators can, however, also be fairly direct measures, showing the percentage of the population or population group actually having a given quality or condition of life. Doctors, supported by laboratories, can in principle assess the extent of morbidity in a sample population by health examinations, or a household survey can ask directly about sickness in the household. In education, literacy which is a part of the educational condition, can be directly tested or simply asked about. In housing, per cent of the population without adequate housing can be directly observed in a survey.

Other things being equal, the less direct the measurement the poorer the indicator. For example, amount of money spent on health by governments or by households appears to make a very poor indicator (partly because of problems of defining health expenditures, partly because of ambiguities as to whether higher expenditure implies greater good health or greater bad health or just greater income). Other things, however, are not equal and direct assessments can be highly expensive or of questionable accuracy. Thus, the direct assessment of morbidity by medical personnel in a household sample survey, while in principle an excellent way of assessing health, in practice is very expensive, places demands on scarce medical personnel and equipment, and is relatively rare. At the same time, surveyors hesitate to question household respondents directly on sickness in the household. This is a situation that calls for testing of the accuracy of data from direct questions and experimentation with different wordings of such questions.

### Problems of variation in indicators

A principle advocated, particularly in the Côte d'Ivoire but also in the India study, is that the indicators **need not be the same for all parts**

of a country, but, for practical and conceptual reasons, might vary as between urban and rural, formal and informal, monetized and subsistence type areas, or simply among regions (they also need not be the same for all countries). Thus, a problem noted in the study of Côte d'Ivoire is the indiscriminate application of concepts suitable for monetary, high technology societies to rural subsistence economies. This can result in procrustean situations where, for the sake of uniformity, the socio-economic reality of the local society is forced into a conceptual model that it does not fit.

The Côte d'Ivoire study calls attention to the problem of unemployment. This is measured in modern occupations in the city by such items as number of people on unemployment relief or getting unemployment insurance payments or the number officially registered as unemployed and looking for a job, but such items in a traditional country setting of small family farms, for example, cannot be measured. If the concept is used in such a context (there may be questions about such usage), it must be re-defined and measured in a wholly different way. The Morocco study emphasizes the fact that the same indicator item may change in importance in different contexts. Water supply in the house or close to the house is an important requirement in the city but in some country areas fetching water from the communal spring is tied in with the social life of the community so that having water in the house or yard is not regarded as so important.

#### **Technical standards and subjective assessments**

The Moroccan study in general takes the position that qualitative indicators are indicators to be based essentially on assessments or opinions of the population involved (or a representative sample). This raises a complex issue, affecting some indicators more than others. Is adequacy of housing, for example, better measured by expressed satisfaction-dissatisfaction of those who live in the houses, and the reasons for their dissatisfaction, or by technical standards of adequacy established by a governmental office (space per person, composition of roof, walls and floor, sanitary and other facilities). Items of major importance to those living in the houses might not be covered by technical standards of the kind mentioned. There are problems and needs that technical and professional people can know about but on which local populations can not be assumed to have informed opinions, such as various kinds of water pollution and associated health dangers. There are also, however, conditions which the inhabitants are better placed to identify and evaluate. Wherever possible and relevant, it would seem desirable to get data on adequacy-inadequacy in relation to both technical standards and popular assessments.

The "one shot" questions mentioned above as being tested in India are in effect "subjective" consumer judgements. The tests relate to food consumption and household expenditure. Alternative methods to

subjective assessment, in these cases, are mostly based on recall of specifics in a time frame. As noted above, however, recall data coming from memory may be quite wrong. Answers to specific detailed questions about food consumption or monetary income are not objective "hard facts" in contrast to answers in the form of general assessments. There is some evidence to suggest that, while specific items of food consumption (and presumably other kinds of consumption) tend to be poorly remembered, broader questions on the kinds of foods generally consumed tend to be more accurately answered.

### **Number of indicators**

A practical question concerning indicators is the number of indicators that should be selected to measure a given component like health, education, employment, etc. If the purpose, as assumed in this study, is not to collect all the statistics needed for the work of government departments but only those needed to get an overall picture of the status, distribution and change of living conditions in the country, then the selection of a limited number of high quality indicators is preferable, in view of the costs of lengthy questionnaires and the dangers of data congestion. It may be necessary to guard against the tendency of operational departments to seek to measure their own operations and programmes rather than progress in relevant conditions of living of the population. It may also be necessary to resist the temptation to propose indicators to meet every possible interest, thereby achieving general support but ending up with an unmanageable agenda for action - and with many indicators of poor quality.

The number of better quality indicators that a country can profitably use will be limited by its data collection capacities.

### **Health Indicators**

**Mortality rates:** Age-specific mortality data, for example under 1 year (infant mortality rates), and 1 through 4 years, along with life expectancy rates at 0, 1 or 5 years, are probably the best indicators of health at the present time. The principal sources are vital registration systems, and direct or indirect estimates based on sample surveys or censuses. Unfortunately, relatively complete vital registrations (covering at least 90 per cent of the population) are not very frequently found in the developing countries. Sample registration, as described above, has been undertaken in only two or three countries. Data are often obtained from sample surveys in which women are asked to relate the history of births and deaths in their lifetime or to report births and deaths over the previous 12 months. Indirect estimates of age-specific mortality are also made on the basis of questions in surveys related to vital events in the previous 12 months, and making use of standard life tables. The population census also provides data on the basis of which estimates may be made, although only at long intervals.

Procedures for obtaining direct data on age-specific mortality rates from sample surveys are subject, as noted above, to recall error and require very large samples, especially if the figures are to be disaggregated. The indirect estimates from sample surveys censuses involve, among other things, the risk that the standard life tables used in the calculations may not be appropriate to the population studied.

The conclusion that countries lacking a comprehensive and reliable system of vital registration cannot accurately and regularly report on changing fertility or mortality is reflected in the Kenya report.

«What is required in the absence of a reliable and comprehensive system of vital registration, is a degree of accuracy in the reporting of live births that is extremely difficult to achieve... the direct estimates have to be substantially adjusted...»

Quality of the data in Kenya is a key issue. Comparison of different sources for infant mortality rates gave inconsistent results, 89, 96 and 104 deaths per 1,000 births.

The India study describes how mortality data are evaluated, and how estimates from various sources are compared. Child mortality rates from the sample registration scheme were found to be 20 to 25 per cent higher than figures estimated on the basis of the population census. Similarly, another source writes:

«Both infant and overall mortality rates have been seriously underestimated in the National Sample Survey. It is generally felt that underestimation of vital rates in the NSS is not due to conceptual deficiencies or defects in the instructions given to the investigators. The basic reason seems to be underreporting of the events by the respondents owing to memory lapse and failing to place correctly the occurrence of the events in relation to the moving reference period of one year. ... The death rates would rise by 25 to 30 per cent if the preceding three months were taken as the reference period (compared to the 12 months period actually used).»

(N.S. Sastry, "Household surveys in India: Quality of Data Collected and their Usefulness for Planning and Policy Purposes", OECD Development Centre, *Multi-Purpose Household Surveys in Developing Countries*, Paris, 1978.)

In general, it is at best possible to obtain rough magnitudes of child and other mortality rates that may distinguish between population groups or areas at the extremes of the range. Minor differences tend to be obscured by sampling and non-sampling errors. Overall average annual change in infant mortality rates (with wide individual variation) is now estimated to be of the order of two to three points in Sub-Saharan Africa. It requires a very sensitive operation to detect changes of this order of



magnitude for national totals, not to speak of groups within the country, over and above the "random noises" of various error sources.

The estimates of mortality and life expectation now widely issued by the international community are not very usable for monitoring changes. For many of the developing countries, they are from models, based generally on either the decennial census or the occasional demographic survey or a survey containing demographic elements. In some countries, where neither recent registrations nor estimates from censuses or surveys have yielded data, the figures may be estimated from those of neighbouring countries. In construction of time series, data may be updated from a given (sometimes far distant) point of reference, or back-dated, by assuming a rate of change so that the figures issued reflect in many cases the assumption rather than the observed reality.

In spite of critical comments on existing mortality data, there is general agreement in the country case studies that age-specific mortality, particularly child mortality, is a necessary indicator in a monitoring system. Further experimentation by individual countries or the international community along the lines of the Indian sample registration system would seem a promising source of more accurate and reasonably rapid data.

**Morbidity rates:** Morbidity rates should be ideal indicators of health. The levels and kinds of morbidity can in principle be captured through questions in sample surveys relating to presence of illness, absence from normal activity due to illness, duration of the illness and identification of symptoms or diseases. The quality of the data depends on how the questions are formulated and how they are understood by respondents (use of a relatively brief reference period - no more than two weeks is usually recommended). Results also depend on the training of the interviewers. Evaluations have shown that even in the best of conditions the validity and reliability of the information is uncertain, so that only relatively large magnitudes of change or of differences among groups are significant. Identification of the actual disease in surveys is rarely feasible. Trained medical staff would be required, together with a variety of apparatus and laboratory facilities, and the cost is usually prohibitive. Lay investigators can reasonably attempt to identify diseases only where the symptoms are well known (as in measles or chicken pox, for example). Even then only large changes in **patterns** of disease can be reliably reported.

Data on extent and rates of morbidity can sometimes be obtained from patterns of illness presented at health facilities. In most developing countries, however, the population coverage by health facilities is incomplete and records are not very reliable. In Côte d'Ivoire, the incidence of the principal endemic diseases such as malaria, chicken pox or bilharzia, is recommended as an indicator. No disaggregation would be possible by socio-economic groups, however.

**Availability of health care:** Data series on health care recommended in the case studies include immunization, maternal health care registration, access to primary health services and availability of drugs. Access and availability would be judged in terms of distance and cost. The precise indicators may depend on local conditions. **Examples** of indicators cited as possibilities are the proportion of children at risk fully immunized against major infectious diseases of childhood that can be prevented by immunization; the proportion of households within a given distance (in travel time) from a suitably equipped primary health care centre; the proportion of households at risk able to purchase, or obtain free of charge, required drugs. In the India study, sample surveys are proposed as the most suitable source to identify access to health care services particularly if socio-economic (income) groups are to be distinguished.

Availability is not identical with actual use. It is noted in the Kenya study in relation to administrative records as a source:

«Their (the health care facilities) accessibility and use is heavily concentrated among higher income groups. Thus, knowing that some provinces, and even some districts, are much better served ... does not enable one to identify the relative availability of such facilities ... for those in need.»

Commonly used measures such as ratios of medical personnel and of beds to population, disaggregated by geographic areas and related to population size, could perhaps serve as a first indication of access but, as emphasized in the India study, problems remain of defining needs and what is meant by a 'bed', which may be unattended by medical personnel.

### **Food and nutrition**

**Food consumption:** The most widely published indicator on food consumption, "per capita calories consumption per day", is a construction out of economic data (often using rough estimates) on food production, food imports and exports, storage, losses and waste, etc. and the net total converted into calories. It does not show the percentage of the population falling below a level of adequacy in food consumption and cannot be used to identify areas or population groups in special need, except very roughly. It is, however, a valuable background item representing a best estimate of supply in relation to population size.

Data on kinds, quantities and prices of foods purchased as obtained from household food expenditure surveys, or from overall household expenditure or budget surveys, provide a quite different approach. Such surveys rest on the assumption that significant amounts of non-purchased foods consumed - locally home-grown or community-grown foods, supplementary foods from fishing, hunting and gathering, food provided by employers or patrons, gifts or exchanges of foods, etc. - are taken into proper account.

More direct food consumption surveys ask how much food of what kinds has been consumed in a given period, perhaps with guidance of a list of foods. They do not get into questions of expenditures.

Complications arise from consumption surveys of both types because of variations in food consumption over time: seasonal variations especially in rural areas, and variations during the month where households depend on a once-a-month payment of wages. To deal with these problems of consumption variability, questions may be asked about purchase or consumption over a year; or repeat visits to the same households may be scheduled in order to get a representative sample of meals over time (an expensive procedure); or interviews in an area may be scheduled, for the different households to be covered, at different times of month and year.

A final problem besetting practically all food consumption surveys is that of inaccuracy of recall, as discussed above. This is a field where experimentation would be desirable: for example, on satisfactory means by which families on pre-selected dates could note or record their food consumption - without having their food behavior changed by the process of observation and reporting.

Present methods of food consumption surveys have been found to yield complicated and profuse data. The case study of Kenya states:

«It is extremely costly and difficult to do household surveys producing data on food intake, income distribution and poverty. It was a difficult enough task to do this on a scale that would allow provincial disaggregation for rural small-holder areas, in 1974/75. It is a much more difficult task to do it on a scale that allows district level disaggregation as has been attempted for 1981/82.»

The 1981/82 survey referred to has as yet not been published.

There has been an interest recently in trying to simplify food consumption surveys by one or other means. One approach has been to use only a small number of selected, critical food items which constitute the staple diet locally. Devices of this kind, aimed at avoiding the complications and costs of large-scale consumption surveys, are discussed particularly in the India case study. One example is the use of per capita household consumption of cereals. For the poorer households an increase in cereals would be progress:

[Per capita households consumption of cereals is] «a direct and very sensitive index of the movements in real living standards in a low-income agrarian economy like India ... a reasonably short schedule can be developed for the purpose of getting a reliable estimate of per capita quantity of cereals consumed. A short schedule would considerably reduce the time required to collect this pointed information and can be canvassed by investigators with some minimal training.»

Asking questions of a general nature about food consumption has also been the object of experimentation in India. Respondents were asked whether they had in the last 12 months regularly obtained two "square" meals a day (38th Round of the National Sample Survey, in 1983). A preliminary conclusion is that "subjectively perceived hunger ... is not as widespread as the incidence of poverty on the basis of the poverty line". The use and implications for social measurement of this or similar questions are being studied in greater detail.

In Côte d'Ivoire also, simple questions are proposed in relation to nutrition, such as the number of meals per day or the number of households able to ensure special food to children under 5, but these have not been tested.

**Nutrition status:** Weight and height measurement of children under 5, separated by sex and age, at least in selected areas or for selected groups, is probably the most feasible means at present of tracing changes in nutritional status over time. This is so in spite of problems with data collection and interpretation. Thus, low weight or low height may be associated with illness as well as malnutrition, or it may have a (partial) genetic basis. Young children covered may not be representative of the rest of the population. As noted in both the Côte d'Ivoire study and the India study, some kinds of malnutrition would not be indicated by low weight or height. The Kenya study mentions several problems in tracing change over time, among them the need, because of seasonal variation, to spread the measurement over the year or to conduct the measurement each year at the same time. The Kenya study also reports that anthropometric surveys of children have proved valuable in Kenya and have had a substantial impact on policy.

It may be noted that, according to the India study, the highest frequency of clinical evidence of malnutrition was not found in the households having the lowest food consumption expenditure.

### **Clothing**

None of the case studies deals with clothing, except for the proposal in the Moroccan case study to ask respondents about their purchase of and satisfaction with clothing. The possession of footwear would seem to be the best single indicator in this field. The use of shoes by children outside the house can be critical to avoid worm infestation in areas of high density of settlement and without proper sanitation; also in surrounding areas of schools without sanitary facilities. However, even this indicator is beset with problems of definition, dependency on environment, etc. The most likely source of data is a sample survey (a question on footwear, however, has been included in censuses, as in Mexico).

### **Housing and related services**

Rapid urbanization in most developing countries has drawn attention to problems of housing that have always existed in many rural areas, namely the absence of clean drinking water, sanitary facilities and facilities for the disposal of waste, as well as the prevalence of sub-standard (fragile, damp, unlighted) dwellings, with high densities of occupation. Additional urban problems are the crowding of houses in urban shanty-towns or urban slums generally, the problems of often high rentals and the often long distances between work and home, with inadequate transportation (a problem often also in rural areas, but less visible there).

Somewhat different indicators are recommended in the case studies for urban and rural areas respectively. In urban areas in Côte d'Ivoire, as in so many other countries, the problem is to find a dwelling solidly constructed (as distinct from shanty-type) at a reasonable rental (reasonable rental is a popularly expressed concern). The appropriate indicators relate to the materials of which a dwelling is constructed (roof, walls and floor), along with the amount of the rent. In the India report there is reference to the fact that housing requirements partly differ between the cold north, where more solid houses are required, and the warmer south. Although in practice the indicators are the same throughout India, climate must be considered in **interpreting** the figures. The implications of having flimsy houses are different in a hot and in a cold climate.

The source of the figures on housing conditions would normally be sample surveys. Change in housing conditions tends to be relatively slow particularly in rural areas, but more rapid in towns. The periodicity of reporting might thus depend on the locality.

In some countries, an indicator of homelessness is suggested. The homeless constitute a problem which has been particularly remarked upon in India and, as regards children, in some Latin American countries. Figures reported in the India study suggest that homelessness is by no means confined to the large towns, but is a problem also in rural areas. The proportion of homeless should be an additional indicator if national conditions warrant. In Indian conditions, decennial figures would probably suffice and the census could be an appropriate source.

As regards housing facilities, indicators should include the proportion of households with access (in terms of locally defined distances) to safe potable water in adequate quantities and to sanitary facilities. In some places an indicator of access to fuel would be desirable, but none is recommended as feasible in the case studies. The most practical source is household surveys.

### **Education**

The indicators of educational status included in the case studies are literacy, highest level of education attained, and school enrolment

related to specific age groups (combined primary and secondary school enrolment related to the appropriate age group are proposed in the Kenya study in preference to either primary or secondary ratios separately). Attendance as well as enrolment is used in India. Overall literacy or the educational attainment rate, or even the combined enrolment rate, are not very sensitive to annual change. Adult literacy programmes apart, the literacy rate changes as the result of the elderly illiterates dying and the younger, better educated taking their place. Enrolment from one year to the next depends largely on what happens at the marginal ages (at normal school entry and departure). The indicator of literacy recommended in the Côte d'Ivoire study for regular measurement is that of the younger age groups, say 15-24, unless there is reason to suspect that adult literacy has changed significantly. Another indicator considered useful in the India case study is the proportion of households with at least one member literate.

The principal source of the data on literacy (for a recent date and disaggregated) could be census or household survey. It is considered that a carefully applied test is preferable to a simple question. Even a test is subject to complications where the spoken language differs from the written language, and it has to be administered to each person in a household above a given age (usually 15 or more) or in a given age range (e.g. 15-24).

Most developed countries that have had compulsory education for many years do not measure literacy but simply assume it to be about 99 per cent. When a developed country does do a careful literacy survey, it may find to its surprise that its literacy rate is some points below 99. One explanation appears to be that some children can go through a number of years of schooling without really becoming literate; also some who have gained literacy can lapse into illiteracy. Immigration can also be a factor. Differences of rates between developed countries that undertake careful surveys and those that do not (but use the 99 per cent assumption) should not be taken too seriously in international comparisons.

For developing countries, cross-national comparisons are even more questionable. Different sources, national and international, publish strikingly different rates in a number of cases. The main problems here are: (a) some countries use a different age range from others (e.g. 10-45 years, which gives a higher rate than 15 plus, the most commonly used age range); (b) some countries test literacy in the official national language only, others attempt to cover the mother tongue also; (c) the majority of current rates of literacy in developing countries are estimates based on a census or survey some years back (sometimes many years back), updated by use of subsequent school enrolment figures which are often of dubious quality as discussed below. The differences in literacy rate due to differences in approach to literacy measurement may also apply to monitoring over time in the same country when definitions or statistical practices are changed.

For enrolment, the source is generally administrative records but might well be surveys. The administrative records as a source have been criticized for their unreliability in both the India and Kenya studies. The latter observes:

«Some of these (school statistics) are of very doubtful quality if the 1982 post-census survey is anything to go by ... The results ... showed 9 per cent of the total number of schools reporting over 20 per cent more pupils than were found in the post-census survey ... the worst figures were for South Nyanza where 38 per cent of the schools were found to have reported over 20 per cent more pupils than were found to be registered.»

In spite of its wide usage, the percentage of primary school-age children enrolled in school is an especially poor indicator of education for several reasons, some of which are given in the India report.

Thus enrolment seems to be frequently inflated because of tie-in with government subsidies or jobs. Also, pupils are often older than the age group assumed.

#### **Employment/unemployment/underemployment**

Problems of measurement in this area relate to unemployment, underemployment in the sense of short-term and badly remunerated work and to work in relatively low-income circumstances. Indicators might take the form, for example, of the proportion unemployed (of those registered out of work and seeking employment) or the proportion in employment receiving less than a minimum income from their work (for whatever reason) and similar.

Concern is expressed in some of the case studies with problems of measurement. As noted in the Côte d'Ivoire study, "numerous ambiguities remain in this sector, for example as regards the real employment status of women and of children between 10 and 14 in both rural and urban areas; or on the degree of activity for those classified as active". Thus, in Côte d'Ivoire, women confronted with a single choice classification as in the population census appeared to have classified themselves as housewives rather than as employed even if they had part-time work on farms. The permanent household survey in Côte d'Ivoire avoided this mistake by noting both primary and secondary activities. The problem is not confined to women and children. It relates also to the many cases of multiple occupations in the informal sectors generally. How should a small subsistence farmer be classified who works his plot, trades on a small scale in cattle and receives much of his income from casual labouring in non-farm jobs? Rather than force him or her into an arbitrary category, a new category might be created that takes this multiple activity into account (e.g. "subsistence farmer plus occasional labourer").

The Côte d'Ivoire study also refers to problems of defining unemployment without reference to income. Urban occasional labourers may spend all day working in their fashion for a pittance. Similarly with farmers working on infertile soils. The usual criterion of employment/unemployment, namely time spent, would not do justice to this situation. The question of combining employment with income data is taken up again in the following paragraphs.

### **Income, consumption expenditure and the retail price index**

These items are not listed as such in the General Assembly resolutions. They are, nonetheless, closely tied to the objectives of the project. Changes in personal or household income (as distinct from the national accounts concept of income which bears little relation to a household's command over resources), or in real consumer expenditure, may critically affect social behaviour. In the absence of free services, the ability to purchase housing or health may be crucial to survival. While this ability can sometimes be captured through non-monetary indicators, it is not always possible to do so in practice. As noted in the preceding paragraphs, also, employment cannot always be meaningfully separated from the remuneration for work. Employment and income must go hand in hand in analysis of social conditions.

The collection of household income and expenditure data present serious problems, however, particularly in subsistence societies. Conceptual problems arise because of the many goods and services that are self-produced, obtained through barter or provided free by the community; practical problems relate to respondents' inability to remember (or their lack of knowledge about other household members), and their unwillingness to reveal sources of income. Some of these problems can be overcome by careful questioning of individual household members, by paying frequent visits to the household, by the use of diaries, or the application of consistency checks, but the sheer bulk of the operation makes annual surveys of this kind impracticable for a great many countries.

There is clearly no easy solution. Full-scale expenditure surveys, required also for other purposes, might be conducted, following the Moroccan recommendation, every 10 years or so. For monitoring items that require more frequent information, questions might be inserted in the 'light' survey on income (personal and household, in stated ranges), and related to employment so as to place it into a realistic setting. In both the India and Côte d'Ivoire studies consumption expenditure is proposed as an indicator of income, using simplified questions. The point is made in the latter study, moreover, that if the same questions are put each year changes might be detected even if the absolute data are inexact.

Simplified measures have been tested in India. Thus, within the National Sample Survey operation in India, two alternative schedules have been used: a longer one, combining household consumption



expenditure and employment data and requiring about five hours per household, and a shorter version in which the interviewing time is reduced to about two and a half hours. Comparison of the data from the two schedules gave the following results:

(a) The distribution of the population by per capita expenditure groups ... is reasonably close to each other at the level of state estimates and separately for both the rural and the urban populations;

(b) Statistically significant differences were observed only at the regional level within states.

The authors conclude that "although the results based on a limited experience do not warrant a major change in the current NSS schedules they are indicative of the possibilities of shortening the schedule for certain purposes, thereby raising the sample size that can be covered with given field-level resources".

The second suggestion made in the India case study is to ask a single question to obtain total consumption expenditure without going through the long list of items that now take up so much space in questionnaires. Preliminary tests at the Indian Statistical Institute in Calcutta show that the ranking of households based respectively on a single question and on a detailed schedule was similar. Further testing is under way.

The **retail price index** is normally not an indicator in itself. It serves rather to adjust income and expenditure data in time series so that these express real rather than monetary change. However, as is implied in the India case study, in the absence of reliable income and expenditure data, changes in prices, particularly prices of crucial items, such as staple foods, essential transport or medicines, might be significant in their own right. This is so because changes in incomes rarely match price changes. Certain groups, moreover, tend to suffer more than others. Price changes should therefore be included in a monitoring system.

### Unitary indexes

A unitary, summary index, combining several indicator values, is not proposed or favoured in the case studies. In spite of the attractions of a single measure there are serious objections to it in measurement of living conditions at the national or subnational level. The following passage from the Kenya study expresses some of the reasons for objection to such an index:

«The districts that have the highest infant and child mortality rates also have the worst child malnutrition ... [and] the worst water situations, or the worst education indicators, **but not always**. It may not be easy to decide what weight to attach to different aspects of need ... It is not obvious that all would agree on the relevant weights or that this would be a

trivial matter. It is also true that people may be deprived in some respects but not others. One may want to pay attention not just to the identification of populations in greatest need overall, but also to populations in greatest need in particular respects.»

### **Perceived satisfaction and perceived dissatisfaction**

It has been suggested above that questions should be asked of household respondents on their assessments regarding the adequacy-inadequacy of various relevant items such as housing, housing facilities, food consumption, household income, health services, etc. It has also been suggested that they could be asked whether things in general were better this year than last. They could also be asked to identify their main dissatisfactions.

Only the Moroccan case study deals with the perception of satisfaction as a means of measuring qualitative indicators. The question is whether people are satisfied with their conditions of life in general and with particular aspects, including the services provided by governments. It is recommended in the Moroccan case study that questions on the degree of satisfaction be asked of a representative sample of the population, as part of ongoing surveys. There are several points to consider with regard to such survey questions:

(a) The formulation of the questions needs careful consideration and testing. The replies depend on the respondents' horizon of experience, their ways of thinking and their comprehension of the terms used in the questions. Respondents cannot give meaningful answers on subjects beyond their experience. (On the other hand, they can be very vocal on concrete matters of daily life.) They cannot give meaningful answers if the questions are not translated with the same meaning into their own language. (Is there, for example, a precise equivalent expression for "satisfaction"?)

(b) Perceived satisfaction should be weighed against objective change where possible.

(c) If questions on satisfaction-dissatisfaction are asked in the context of household surveys, they should be addressed to all adults and not only to the head of households. Women may have different views from men, or the young from the elderly.

How to gauge levels of satisfaction, regularly and systematically in developing countries remains a matter for further experimentation in a variety of countries, settings and conditions.

## Disaggregation

As evident in previous references in this report, disaggregation - the sub-division of national totals into discrete categories - plays an especially important role in data collection for qualitative indicators. Typical categories are regions or districts within a country, men and women, age groups, socio-economic or occupational categories. The purpose of disaggregation as described, for example, in the Kenya and India studies has been to obtain data for areas suitable for planning. The argument for disaggregation to district level in Kenya is that "it is politically difficult to allocate significantly more resources to particular provinces. It is much easier politically to argue for a focus on a district that is particularly deprived".

The case studies indicate, first, that the criteria according to which the data are disaggregated vary from one country to another, secondly, that the categories may have to be compounded from several criteria. A simple distinction into urban/rural is rarely sufficient by itself. Thus, in one African country the commonly used major categories are: the capital city, other urban areas, commercial farming areas, subsistence farming areas. Both the urban and the rural categories have been further sub-divided on the basis of other criteria.

In Côte d'Ivoire, a meaningful sub-division is by region and within regions by other criteria such as the type of farming (for example, cotton farmers in the Savannah region). In the Moroccan case study it is proposed, after discussion with the Direction de l'aménagement du territoire, to base the classification on three criteria: geographic (plains, mountains, plateaux, large agglomerations, medium- and small-sized towns), economic (agriculture, whether production is intensive or extensive, commercial farming, industrial, touristic) and socio-cultural.

The aim in Kenya in recent years to disaggregate by districts, of which there are 41 (ranging in size from about 50,000 to one million), is in line with the government's "District Development Focus". In India, the trend in statistical work has been to disaggregate from state level down to districts and to community development blocks since this is where it is believed that in the future much of planning should take place. The question that should be decided in each national context is whether all, or the same, data required for larger aggregates are necessary also for smaller units, with possibly different concerns.

Data on individuals should be broken down by sex as a matter of routine, where the breakdown is applicable. The division of households by sex of head of household has not always been successful because of complexities in concepts and statistical practice. A classification of households should, however, distinguish, at the very least, households where the sole adult or the sole working person *de facto* is a woman. Other disaggregation would depend on the local context. Income (to distinguish the poor, however defined) and occupation are commonly used as criteria in socio-economic classifications. The India study refers

to the problems of assessing the incomes of the affluent (for whom relatively large samples are required). For purposes of monitoring qualitative indicators, however, their incomes are not of major interest. Information is required rather on how the poor or those on the margins of poverty are faring. A detailed coverage of income distribution at the top of the scale is unnecessary for the purposes here.

As noted above, the implications of disaggregation are serious as regards surveys, less so for census and most administrative data. The required increase of sample size depends on the kind of disaggregation, particularly on the number of additional groups, the stratification used and the degree of homogeneity of each sub-group as compared to the total sample. In the most unfavourable case the required sample size would increase proportionately with an increase in the number of units (i.e., it would need to treble if data are required separately for three sub-groups). Evidently, the increase in sample entails considerable costs in money and staff.

In India, the recent (1987/88) sample size in National Sample Survey operations for the quinquennial detailed consumer expenditure survey was about 130,000 households, enough to provide information at state level and for about 80 "regions". For corresponding data at district level Indian statisticians have proposed a sample twice as large. For the annual, less detailed consumer expenditure surveys, the sample is about 25,000 households, providing data only for the larger states.

In Kenya, the sample size of the standard surveys increased from 31,800 households (in 1975-1979) to 115,200 (1985-1989). "This was a huge expansion over a relatively short period of time. It was a credit to CBS that so much was achieved so relatively successfully at the field level. Given the resources available, it would have been quite impossible to achieve similar successes at processing and analysis stages as well. It was here that the main problems arose."

#### **Data processing, analyses and reporting**

Problems mentioned in the Kenya case study are the inordinate time spent checking the data and correcting errors (often by consulting the original interview schedules), the relative slow pace of data entry, file management, insufficient capacity of the hardware, unsuitability of software to cope with the expansion. Of the 11 major surveys during the 1980-1984 programme, six had not produced results by 1990. Kenya is not unique in this respect. Nor is the problem of processing in Kenya confined to survey data. As noted above, there have been serious delays in issuing census reports and the latest comprehensive reports on school statistics from administrative sources available in 1988 date from 1983 although the figures have been collected annually to the present.

#### **Processing and Organizational Questions**

Serious staffing difficulties also arose in analysis of data and in reporting.

### Central oversight and co-ordination

The successful execution of a programme to collect, process, analyse and distribute data on a select number of indicators of living conditions would seem to call for a single central co-ordinating body covering several interests: development planning, statistical operations, substantive analysis and sectoral policy making.

The government of Morocco (as a result of the present project) has established a National Committee of Co-ordination in which the ministries with an interest in social monitoring are represented. Within the committee, six sectoral commissions, each composed of representatives of the relevant ministries and in some cases (health and social services, for example) of non-governmental agencies (such as the family planning association) have been set up. These deliberate at a technical level respectively in education; health and clothing; employment and vocational training; food and nutrition; housing and environment; social services, transport and communication. The Committee is chaired by the Director of Statistics who at the same time is a high official in the Planning Ministry.

The study of Côte d'Ivoire contains other suggestions for the means of co-ordination. It concludes that many of the formal co-ordinating bodies have been unsuccessful, that they have had no real powers and no continuity, that their composition has been determined more by administrative convenience than interest in the subject matter. The committees that functioned relatively well had the following features: (a) co-ordination between interested parties (e.g. the various potential users and the statistical offices) took place through informal working groups, set up on an **ad hoc basis solely for the purpose of a particular enquiry**, on the initiative of one of the concerned agencies; (b) the working group was set up at the very start of an operation; (c) the group was composed of persons with professional competence in the topic under discussion; (d) discussions took place on the basis of carefully prepared agenda, with concrete propositions that took into account the interests and competence of each participating agency.

The organizational framework described here seemed to have worked reasonably well in the preparation of surveys of employment and training and of an enquiry into the informal sector in Côte d'Ivoire.

The location of any central body for assessment and monitoring of living conditions can be a problem. There are arguments for the president's or prime minister's office, the planning office (if it covers social development as well as economic development), the statistical office which must bear the brunt of the work, or for a separate semi-public body which could resist the pressures of special interests and achieve a scientific neutrality.

### **The role of the international community**

The international community, including agencies in the United Nations system, bilateral agencies and foreign academic bodies, has need of statistics from developing countries, often on an ad hoc basis and on a variety of themes. The effect apparently can be both favourable and unfavourable. In the case of Kenya, the assistance provided by international agencies and by some foreign universities in the execution of surveys and in the analysis and dissemination of results appears to have substantially benefited some of Kenya's statistical work in the 1970s. At other times the assistance provided by foreign agencies, often supported by more liberal funding than was available to governments and with a different set of priorities, was said to carry the risk of distorting national priorities.

«Aid agencies push inappropriate technology too fast and too soon. Aid agencies offer large quantities of technical assistance and other external resources to enable countries to undertake programmes that are too ambitious for them to undertake otherwise. .... The emphasis on short-term results conflicts with medium- and long-term development of statistical capacity ... Given the way that donors operate, a heavy reliance on donors makes it difficult for the government to undertake a continuing programme of data collection ... Thus longer-term series, and basic information that is useful to the government, more generally, get low priority.»

This commentary is from the Kenya case study. Other case studies do not go into this problem.

### **Some Conclusions**

1. Effective registration systems are the only truly satisfactory means of getting age-specific mortality rates (and life expectation rates constructed from them) which constitute the best indicators of health at the present time. More attention should be given to building up accurate registration systems in developing countries, perhaps by means of establishing carefully supervised registration systems in sample areas, as in India.

2. In the field of sample surveys, a major obstacle to obtaining good data for important quality indicators is the sheer mass, complexity and cost of the data involved, as in detailed expenditure and consumption surveys. Solutions to this problem should be pursued through experimental use of data reduction and simplification techniques.

3. Among such techniques calling for experimentation in countries of limited resources are simplified light surveys combined with an intensive study in observation areas (tied in with the surveys) of problems pointed up by the surveys.

4. So-called "subjective" assessments of adequacy, given by respondents in reply to general questions with regard to various components of living conditions, should be considered as a means of reduced survey weight if they can be demonstrated to be generally useful. Also, indicators revealing subjective perception of adequacy-inadequacy should be asked simultaneously with questions involving technical standards of adequacy to see whether the population involved has serious dissatisfactions different from and supplementary to those revealed through the technical standards.

5. In general, a great deal more pre-testing and validation is required in data collection methods in developing countries on qualitative indicators. Too much time and money is wasted on data collection by methods and procedures untested in local circumstances which do not turn out to be effective.

6. The same indicators or the same operational definition of indicators should not be expected to make sense in all environments in developing countries. This includes indicators of employment and income. Similarly, differences between countries in socio-economic structure imply differences in the significance of certain indicators.

7. It is a conclusion from the studies that indicator selection and data collection are not the only problems in assessing and monitoring living conditions. Processing, analysis and reporting are others. It is an important lesson of at least one of the studies that there should be careful planning to make sure these various phases do not get out of balance. The organizational framework within which statistical work takes place is also crucial, including matters of cultivation of demand for social data by governments, suitable forms of co-ordination between producers and users of data on a technical level, and the role of the international community.

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