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## I. INTRODUCTION

The purpose of this paper is to introduce the Living Standards Measurement Study (LSMS), recently begun at the World Bank. The initial objective of this study is to identify the data which can most usefully be collected and the best ways of collecting it, in order to provide a description of living standards and a basis for analysis in support of policy formulation.

The LSMS has been conceived in response to the widely recognized needs for a better quantitative basis for the design and monitoring of development policy. Given that such policy is primarily concerned with securing and raising the living standards of people, there is a premium on facts that relate to living standards in general, and more specifically to poverty, basic needs, employment and income distribution.

While the international statistical system has focused its efforts on gathering data on production, accumulation, internal and external capital accounts, etc., along with the compilation of socio-economic indicators, only limited efforts have been made to put these diverse data sets together in a consistent framework which could foster a better understanding of the development process. The LSMS will attempt to present the two sets of data in one consistent accounting framework which will highlight the flows of income from the productive system towards the households and other institutions who provide productive inputs. Our main interest, of course, is with the household sector which is seen as an aggregate of socio-economic groups. Ultimately, therefore, the LSMS wishes to answer the question: which groups in society benefit from economic development and which, if any, are left out? With such knowledge, policies can be formulated or reformulated to distribute or redistribute the fruits of the development effort.

Household surveys are seen as the major tool to collect data on living standards. The current situation in most developing countries regarding household surveys can be considered deficient in a variety of ways. The problems are well known: inappropriately defined concepts (e.g., of the household and income) often lead to internal inconsistency of the data collected due to varying enumerator interpretations. Existing sampling frames are often inappropriate for household surveys and/or outdated. Lack of resources, especially trained manpower, plagues the field operations and results in the collection of poor quality data. Serious bottlenecks exist at the edit and data processing stages, in terms of software, hardware, and personnel.

Although not exhaustive, the above list of issues that could potentially be addressed by LSMS is sufficiently long to show a clear need to define a relatively narrow focus at the outset. The areas where this study can be of most help are determined very much by the comparative advantage that the World Bank has accumulated through its research on poverty, income distribution, etc. The LSMS will therefore focus on conceptualization, survey methodology and

data analysis. Fortunately, other initiatives are under way which are complementary to LSMS. Most notable is the UN National Household Survey Capability Programme, a global program to help countries develop their capability to conduct household surveys. Equally, LSMS may cooperate with regional efforts such as the Inter-American Household Survey Program.

Some limitations of LSMS must be pointed out. On subject matter, the focus of attention will be on data on income and expenditure, which are seen as the core determinant of living standards. Nevertheless, the study of incomes and expenditures will be approached in a broad framework including other components as well.

With respect to country coverage, it must be said that while we hope that our dissemination of methodological findings will allow the largest number of countries to enjoy the benefits of LSMS, our direct involvement will be limited to a handful of countries where we shall conduct experimental survey work.

The projected time schedule of LSMS will place constraints on methodology. It excludes e.g. the possibility of undertaking longitudinal studies. In order, however, to fulfil the main purpose of LSMS, viz. to monitor the impact of development policy, an emphasis on changes over time is clearly indispensable. Accordingly, the main thrust of LSMS will be towards the design of a set of concepts, survey questionnaires and procedures for analysis which can be repeated, e.g. at 5 year intervals, to make statements about changes over time.

Finally, the emphasis in LSMS is on measuring how different groups participate in the development process. The emphasis will therefore not be on intra-group inequality, or the place of individuals in their group, but rather on inter-group mean differences, or the position of groups in society.

## II. THE WORK PROGRAM IN OUTLINE

The work program presented below has benefitted from the meeting held at the World Bank last February of an Expert Advisory Group consisting of leading economists, government statisticians and representatives of international organizations. It will evolve in three phases broadly corresponding to the sequence design, implementation, and analysis - spread over four years. This order of succession, however, is not intended to prevent overlap which, in fact, is needed to ensure proper feedback between the phases. The feedback from analysis to design is considered especially crucial.

Phase I includes an evaluation of existing data and methods of data collection and analysis, as well as the preliminary design of new surveys and of a series of topic studies which are envisaged as one of LSMS's main outputs. Based on the proposals generated in Phase I, Phase II will carry out the testing of survey instruments and the collection of data in a few selected countries. Phase III will cover the analysis of the newly collected data, the write-up of the topic studies, and the finalization of survey manuals

and questionnaires on the basis of our experience. In line with the need for constructive feedback Phase 2, the field work stage, overlaps with the other phases, such that some experimental field-work may take place before the completion of all conceptualization and, equally, preliminary analysis may begin before all the data are collected.

The list of topic studies for LSMS is not final. So far we have identified the following six potential topics, to be discussed in further detail in the next section: 1) Poverty and inequality; 2) Manpower, employment and earnings; 3) Income distribution and national accounts; 4) Demand analysis; 5) Economic influences on demography; 6) Access to public services.

The general form of each study will be:

(a) concepts to be measured and their theoretical basis; (b) questionnaire modules to measure the concepts; (c) numerical results, with special emphasis on tabular and graphical presentation; (d) derived statistics and their interpretation; (e) more advanced analysis, hypothesis testing and interpretation; (f) policy implications.

The primary output of LSMS will thus be a set of studies on what data is needed and how it can be used to illuminate particular areas of policy intervention. By giving this emphasis to applications of household survey data and demonstrating their use, we hope to contribute as much to the stimulation of demand for better surveys as to their design.

In order to keep the professional audience informed of the progress and results of LSMS as it proceeds, the study's findings will be disseminated via scientific journals and meetings in the usual manner, as well as through a newly established LSMS Working Paper Series to be available on request. This series will begin with the papers presented to the Expert Group meeting in February.

### III. PHASE I

#### A. Evaluation of Existing Data and Methods of Collection and Analysis

This activity has already begun, and papers presented to the Expert Group meeting held in February 1980, document much of the experience to date. This documentation will now be extended by further papers on specific investigations of survey methodology which might be set up as new experiments, dealing e.g. with alternative recall periods, use of different survey methods to improve data quality and with the reduction of non-response.

While there is enormous scope for further analysis of existing data, the general position is that enough has been learned to date to suggest that this will be a less productive activity than working on fresh, newly designed information. Accordingly, such analysis will be restricted to situations which are exceptional either in terms of the richness of the information source and prospects for local collaboration, or because such work will provide the additional opportunity to become familiar with the situation in a country which is likely to be involved in subsequent stages of the LSMS. So far, five countries have been identified which are exceptional in these terms.

#### B. Preliminary Design of Topic Studies

Work on the preliminary design of four of the six proposed topic studies will commence this summer, focusing on the specification of concepts, pro forma tabulations, and the analyses which we would like to carry out with Phase II results as available. The following notes are a preliminary guide as to possible content of the studies.

##### Income Distribution and National Accounts:

This study will show how household survey data can be used as a micro-data base for extending the scope of conventional national accounts. The emphasis will be on national accounts in the expanded social accounting matrix (SAM) format in which the household sector is subdivided into socio-economic groups in a flexible manner.

Demand Analysis: This study will examine in depth the various issues which underlie estimates of total consumption by households. The subject matter will cover Engel curve analysis and household composition effects, together with problems of price variations between households, seasonal effects, and the need to impute values to income in kind, production for self-consumption, and various benefits obtained from the use of public services. A second dimension of this study will be the analysis of data on housing conditions and the accumulation of durable goods, since such analysis is likely to supplement our understanding of consumption patterns and economic well-being.

Poverty and Inequality: This study will address issues of poverty and inequality from the perspective of societies stratified according to socio-economic groups. It will explore indicators of poverty and affluence which could capture elements of living standards that complement the information in indices such as household per capita consumption. Particular emphasis will be given to identification of the poor and the characterization of poverty, particularly in terms of identification of the factor endowments of households.

Manpower, Employment and Earnings: The study will cover the sources of income for households of different types with particular emphasis on employment income and income from household production activities. The analysis of dualities in labor markets will be a critical theme, based largely on the estimation of earnings functions which recognize education level as a key variable along with other household resources, such as access to land. Labor force participation and the distinction between primary and secondary workers will provide still another element of this study.

The last two topic studies are: Economic Influences on Demography and Access to Public Services. Although LSMS focuses on income and expenditure, it is recognized that health, nutrition, fertility and education are important elements of living standards. These two studies will attempt to explore these topics keeping in mind that the usefulness of survey results in these areas is greatly enhanced if they are compatible with corresponding economic indicators. Accordingly, LSMS will extend itself into the area of economic and demographic linkages because (a) the demographic component that is required has been well thought through and thoroughly tried by the World Fertility Survey; and (b) these particular types of linkage are already well researched, particularly within the Bank.

LSMS may also attempt to make use of community or village level surveys. These can contribute substantially for three reasons: (1) while the emphasis we would like to put on changes in living standards over time is hard to capture simply through point-in-time household surveys, it is much easier to track fixed communities over time and, hence, conduct longitudinal surveys of these. (2) Some information concerning the availability of services can perhaps more usefully be collected by community level surveys. (3) One of the major problems with household surveys is that they can easily become too long and/or unmanageable. A potential advantage of setting household and community surveys in a common framework is, therefore, that this provides some opportunity for relieving the pressure on the household survey questionnaire and making it simpler. Our thoughts in this area are, however, embryonic and call for considerable development before it can be decided to what extent LSMS will involve itself in data collection at the community level rather than at the household level.

### C. Preliminary Design of New Surveys

The specifics of survey content raise a host of issues which must ultimately be resolved in relation to the details of the topic studies. Here we will make no attempt to be exhaustive, but rather to comment on some specific points which seem to be of strategic importance.

Sample Design: First, the sample frame for collecting data will necessarily be based in the first instance on geographic subdivisions. It is therefore not essential to canvass nationwide surveys in any year. However, there would seem to be a strong case for doing so, since the geographic subdivision of households is only one of several relevant groupings. The value of results will be much reduced if nationwide surveys are eschewed. Similarly, it would seem to be essential to collect data over a full annual cycle, if only because of the potentially important seasonal effects which can be captured as a result.

Second, in designing samples, the emphasis should be towards good estimates of mean values for households of a given type, rather than on variations within household types. As argued in the introduction, the objective should be to measure, first, average levels of living within groups of households, and hence the changes in them over time, and, secondly, the differences in these averages which arise between groups. The efficiency of estimation of intragroup variations is not crucial, and therefore is not an important factor in sample design as far as LSMS is concerned.

Household as a Producing and Consuming Unit: Since many households in developing countries are engaged in household and/or unincorporated business activities, it will be important to define carefully the boundaries of the household as an income earning/consuming unit. Adopting a narrow definition potentially simplifies the household survey. Equally, data which are not picked up in one inquiry must be sought in another to the extent that they are important. It can be argued that one of the key areas in which data are needed is the relationship of the household to the production structure of the economy. Such data must therefore be collected from households to

the extent that an interface is required to relate information on consumption to that which is collected from production units; and where the household is the production unit, there is obviously a strong case for incorporating information on both its production activities and consumption in the same survey. Hence the household needs to be carefully defined both as a producing and as a consuming unit.

The above is most important in relation to households engaged in subsistence agricultural production. But in fact most households provide both goods and services for themselves, if only at the level of growing a few vegetables and maintaining property. The less developed the society, the more prominent are such activities; and they are generally of greater relevance for the poor as compared to the rich. It is therefore important to measure these activities in a systematic way, as a complement to the picture of incomes and consumption which can be obtained from details of cash flows and transactions. Their valuation raises difficult questions of imputation, which cannot always be neatly resolved with reference to economic theory. Essentially there are two approaches, one based on the estimation of what it would cost to buy the goods or services which the household provides for itself, the other on income forgone by the household in choosing to supply goods or services to itself, rather than work for wages. In an ideal world these two approaches might yield essentially the same answers. But the real world is not so simple and, in particular, the opportunities to work remuneratively can be strictly limited.

Given these general considerations, some comment can be offered on the particular topics which might be covered.

Enumeration of Household Members: The starting point is evidently with the members of the household, covering age, sex, race, education and interpersonal relationships. Next, information needs to be collected on the boundaries of the household as a producing unit, implying a designation of the occupational status of each individual.

Employment and Occupation: As a check on individual occupational status, and because the results could be of direct interest in their own right, there is a case for including questions on time use within LSMS. Not least, such data can provide a means of checking on the mixture of activities undertaken by individuals, and hence on the items of income and expenditure which need to be imputed. They can also lead naturally into details of employment status and sources of income. The technical issues of collecting time use data are considerable. This then may be an area in which LSMS should experiment.

Housing and Durables: Data on housing should include the availability of amenities such as fresh water, waste disposal, and lighting, and might potentially be extended to include household durable goods such as cooking and heating appliances. Similarly, the section on acquisition and sale of durable goods should cover other topics, such as weddings and funerals, which give rise to significant, irregular and infrequent expenditures. This category must also include data on asset accumulation and sales associated with household production activities.

Cash Transactions: Next, a full balanced

statement of cash incomes and expenditures is called for, providing a consistency check on more detailed information and, at the same time, relating the household to the cash economy. In collecting data on cash expenditures, an important point is whether quantity or price data should be sought to supplement the information on financial outlays. A variant which may be of interest would be not to attempt either for individual households, but rather to seek price data independently, e.g. by having separate surveys of prices conducted among a selected group of housewives who might be interviewed individually or as a group, or alternatively by collecting data from markets or retail outlets. It can be noted that this type of price data is also needed in the International Comparisons Project work on international purchasing parities and for generating national accounts at constant prices. Furthermore, a vector of prices is always needed to impute values to those items which are not purchased for cash: the approach offers one way of obtaining these vectors. And finally, surprising variations are observed in prices for consumer goods both over time and according to the haggles or bargaining which are a part of everyday life. This type of variation is a component of the intragroup variation which we have previously suggested is not a primary concern. Hence it may be unnecessary to pursue it.

On the income side, cash receipts derive from employment, transfers, returns to financial assets and sale of own produce. Of these, it is reasonable to anticipate better data under some heads than others. With respect to cash wages, the potentially important feature, beyond the amounts involved, is to fix the nature of employment so that the household can be linked up to the production structure. This essentially involves a description of the type of work done and the nature of the employing agent or establishment. One possible way of fixing links to the formal sector of production arises when the latter can be identified through payment of social security contributions. This is perhaps an area for experimentation.

Data for some types of transfers are easier to collect than others. Cash transfers between households will arise both on the receipts side and as items of expenditure. Hence they can usefully be cross-checked at the aggregate level. Transfer receipts from social security, scholarships, and remittances do not present any severe problems, but the transfers which derive from corporate distributions are much more difficult to pin down, as are interest payments and receipts. There is little that can be done to improve the quality of such data obtained at the household level of inquiry.

Finally, sales of own produce are an important element of the overall picture of cash transactions. In subsistence societies such sales are likely to be irregular and subject to a marked seasonality. The reference period is therefore important. Equally, the nature of the 'own product' sold is important for relating the household to the production side of the economy.

Non-Cash Transactions: Non-cash transactions which do not add to the stock of assets are simultaneously an element both of incomes and expenditures. They can be measured in physical terms

via inputs (notably labor time) or outputs (such as kilos of vegetables). But however this is done, the same physical entry appears both as an item of consumption and on the income side of the accounts: and it is a separate question to determine what value to associate with each physical magnitude.

These non-cash elements of income and expenditure which need to be imputed fall under four main headings. The first is the amount to be imputed as a result of ownership of durables, notably housing. The second is attributable to income in kind, such as meals provided by the employer at the place of work. The third category covers the goods and services which households provide for themselves via direct labor input. And finally, there are the services provided by the state which households utilize. This latter category includes household benefits from state education and health facilities, and hence is important in broadening the picture of a household's living standard as otherwise determined. Difficult questions of imputation arise in relation to such items; nevertheless, it would seem to be worth pursuing them because of the obvious links with policy and welfare.

The above discussion of survey content can be summarized by suggesting that data might be collected in six areas as follows:

- (1) Enumeration of household members with details according to age, sex, race, education level, occupational status and interrelationships.
- (2) Individual time use by locations, activities in each location, and mode of transport between locations in order to cover employment status and other aspects of labor force participation.
- (3) Characteristics of the dwelling, including household durables, amenities, ownership, and rent paid, if any.
- (4) Infrequent expenditures, i.e. acquisition of household and personal durables, home improvements, weddings, funeral expenses, etc., over the past 12 months, plus acquisition and sale of assets for use in household production activities.
- (5) Full accounting of cash transactions: expenditures by item, incomes by source.
- (6) Consumption of own produce and public services by type of goods or services, plus income in kind.

All this adds up to being an ambitious undertaking. The necessary details might well be cut back by a determined attempt to restrict information to that which can be used for checking the internal consistency of the data collected or to that which is of direct relevance for predetermined tabulations and analyses. Equally, it may be thought that some of the suggested topics could well be deleted. We fear, however, that the pressures will be in the opposite direction, i.e. to attempt more rather than less.

#### IV. PHASE II

The work on Phase II, based on the proposals generated in Phase I, will cover fieldwork in selected countries, involving both small-scale experiments or pilot surveys and, in some instances, full national surveys. In any one instance, the detailed content of the survey work will be based on a range of considerations, including the particular interests of the country in question, while staying within the overall conceptual frame-

work of LSMS.

As the topic studies are developed and their data requirements are translated into draft questionnaires, a number of technical, statistical issues will come to the fore. These include the practical problems of measurability, required accuracy and correction procedures. There will, therefore, be a need to develop a series of survey documents or manuals on methods and procedures for data collection, covering questionnaire design, sampling and field methods, and guides to editing, statistical imputation and tabulations. These should be based on experimental testing to the extent that resources will allow, and result in the documentation of recommendations on how to implement the data collection with which LSMS is concerned.

The development of this aspect of LSMS will depend on anticipated and revealed problems in implementing LSMS data collection. The core questionnaire will not only need to be translated and modified to suit local situations, but the need to have alternative versions of the questionnaire for different groups (literate vs. illiterate, those engaged in subsistence production, etc.) can be anticipated at the outset. Similarly, there is known variation in field methods, e.g. with respect to numbers of interviews, respondents and supervisors.

The identification of best practice over a range of countries through the success actually achieved and the obstacles encountered provides an initial means of identifying the extent to which modifications of the core questionnaire will be necessary and alternative formats for particular modules will be required to meet different situations. Beyond this a more detailed work program will be prepared on the range of statistical experimentation which could efficiently contribute to the technical aspects of LSMS survey implementation.

#### V. PHASE III

Phase 3 is the final phase of LSMS and covers the analysis of the collected data, the documentation of the results, the recommendations on the appropriate approach that countries ought to take, and the dissemination of all this information. It should be emphasized here that the documentation will include both statistical materials such as questionnaires, sampling and field management manuals, guides to editing, etc. as well as the topic studies. The latter are also manuals in the sense that they are not intended to be advanced treatises but rather guides on how to use results from household surveys to inform a broad audience about living standards and to analyze their determinants.

The analysis of the survey results can be considered on four levels at least. First, there are the crude numbers obtained from field work, edited for quality control and made accessible in data files. This product is the primary goal, since it provides a micro-data set which should be accessible in response to whatever specific questions might be addressed to it, or whatever working files might be needed for particular applications and analyses. Second, results take the form of derived statistics which can usefully complement the basic data, such as subtotals, ratios, and imputed values for particular

variables. Again, there seems to be no substitute for direct recommendations in this area, and for some worked-through examples which can provide a ready checklist for others to follow up. The third level of results comprises the graphs, tabulations, and standard formats for presentation (and publication) of what has been revealed by the survey. Some countries are well able to carry through this stage of a survey without any such guidance. But there are a great many which are not. A significant amount of the current frustration with the "state of the art" is due to the fact that the processing of results at this stage is ill-designed regarding both scope and content. Moreover, it is the results obtained at this level which are of the greatest potential interest for public debate. Comparing such results over time will define the changes which have taken place, and hence the evolution of living standards which is our primary concern. Therefore, such results merit the closest consideration.

Finally, results take the form of in-depth investigations, typically involving multivariate analysis, hypothesis testing, etc. There is a great shortage of individuals who can design and execute studies at this level, e.g. studies on Engel curves; hedonic studies of housing conditions; measures of poverty and inequality; and earnings functions. Such studies can add depth to the understanding obtained from simple, tabular results, and hence be of value to the policy-making process. Accordingly, they should be a part of the LSMS, in the spirit that prototype studies might usefully be replicated in countries where the necessary skills are available.

#### VI. CONCLUSION

In supplying essential data for the determination of policy, the potential importance of LSMS is unlikely to diminish in the years to come. This is firstly because of the historical trend in most cultures towards a greater concern for equality as such. This trend is encouraged by the weight of evidence that aggregate growth is not always shared equally within countries. Furthermore, because many countries must now address the probability of having to restructure their economies in the face of slower overall growth of export demand, and a worsening of the terms of trade, there is a growing need to provide the facts on how living standards are linked to the production structure as well as how they are changing over time. Without such information there will be major difficulties in formulating a policy for restructuring which is sensitive to its repercussions on different socio-economic groups, and in judging the success of any policy in protecting living standards.

When data are to be imputed in the policy making process, their timeliness is of utter importance. At present, many countries who are able to execute surveys in the field, run into major problems at the stages of editing, tabulating and analyzing the data, and many surveys are therefore slow to yield useful results. This, in turn, is a significant reason for the low priority given to survey work by many governments. This means that opportunities for basing policy on sound and recent data are being missed. If this is so, customer education via demonstration effect should be a top priority for LSMS, and processing and analysis of data to

draw out its policy implications deserves the greatest emphasis.

As a research study, the outcome of LSMS is to some extent uncertain, and there will be a need at the end of the study to undertake a major evaluation. Its initial success will depend on the extent to which national statistical authorities choose to adopt the proposals which emerge from Phase I of the study without necessarily waiting for all phases to be completed. Within this, the LSMS recommendations on how to tabulate and present household survey information may have far-reaching and more immediate consequences than full adoption of the LSMS proposals.

In view of the range of possibilities as to how LSMS might influence future work on living standard measurement, the study will not be directed to any fixed ends beyond those described in this work program. By maintaining the close cooperation there has been with the UN National Household Survey Capability Programme through the early stages of defining the LSMS and by keeping the Statistical Commission informed of progress on the study, it is hoped that the LSMS research study will lead to a set of results which might eventually be commended as guidelines for national practice.