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TECHNICAL CO-OPERATION

World Bank initiatives in the design of permanent integrated
household surveys

Report of the World Bank

SUMMARY

The Commission, at its twenty-fourth session, requested the World Bank to submit a report on the Bank's initiatives in the design and implementation of permanent integrated household surveys. The present report is the response to that request. An introductory section (paras. 1-8) provides the background and rationale for the Bank's two initiatives, the Living Standards Measurement Study (LSMS) programme, launched in 1980, and the Social Dimensions of Adjustment (SDA) programme.

Section I reviews and evaluates LSMS surveys (paras. 9-33). Section II details the orientations of the SDA project and provides its organization and operational status (paras. 34-66). Steps taken by the Bank to co-ordinate its activities with those of other international agencies, including the National Household Survey Capability Program (NHSCP) are described (paras. 64-66).

The final section of the report presents points for discussion by the Commission (paras. 67-69).

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INTRODUCTION

1. In the 1970s, Governments, development agencies and other members of the development community became increasingly interested in the question: does economic growth in developing countries significantly raise living standards, especially those of the poor? The question was difficult to answer owing to a lack of reliable data for assessing the distributional impact of macro-economic development policies. Even in countries that had functioning statistical systems, producing a flow of data from ongoing sample surveys of households, it was not possible to assemble relevant data to address research and policy concerns. In most developing countries, household surveys were, and continue to be, designed to collect data on a topic-by-topic basis. Integration of results from such single-topic surveys is difficult given differences in sample sizes, underlying concepts, reference periods, geographical coverage etc. In addition, timely data from sample surveys of households were not commonly available as data processing constraints affected timeliness. In brief, the demand for data was not matched by supply. It was against this background that the Bank initiated an effort to establish data collection systems in developing countries that would rapidly collect and disseminate information on socio-economic conditions.

2. Emphasis was placed on data that would bear directly on current policy issues, rather than on the measurement of living conditions *per se*. The activities stimulated and implemented by the project launched by the Bank were threefold: (a) collection of high quality data from specially designed integrated household surveys; (b) rapid publication of general descriptive data for immediate use by policy makers; and (c) analysis of the data to address specific policy issues. The third aspect was to go beyond measurement, employing rigorous economic and statistical techniques to analyse household and individual behaviour with special emphasis on how that behaviour was affected by government policies. The design of household surveys to be canvassed was such that the data would be particularly suited for the analysis of a variety of important policy issues, including distributional and poverty questions such as the effect of macro-economic development policies on the poor.

3. The second major objective was to strengthen national capabilities to conduct household surveys that generate high quality, policy-relevant data in a timely and cost-effective manner. It was in this context that the Bank launched the Living Standards Measurement Study (LSMS) programme.

4. The need for comprehensive data for purposes of policy formulation, evaluation and for decision-making transcends particular countries or geographic regions. That need is greatest in countries of sub-Saharan Africa.

5. In the context of the Bank's dual role as a development institution, and as the international agency most concerned with assisting member countries through financial programmes and providing macro-economic and sector-specific advice, analysis of country situations is an important dimension of its work. The Bank's role is particularly critical in countries of sub-Saharan Africa where, since the beginning of the 1980s, a growing number of countries have embarked on

structural adjustment programmes aimed at stabilizing the economy in the short to medium term while creating the conditions for a resumption of self-sustained growth over the longer term. While the first structural adjustment programmes largely focused on the objectives of restoring macro-economic equilibria and of reducing incentives distortions, there is now a growing concern among Governments in the region, within the Bank and generally within the international donor community about the social implications of the structural adjustment process.

6. A major concern relates to the transitional cost of adjustment for vulnerable groups, in particular the reduction in income, employment and access to social services, that is generally experienced in the intervening period when the contractional impact of demand management policies outweighs the expansionary effect from policies directly stimulating economic activity. A second concern relates to the longer-term social implications of the structural adjustment process, in particular the need to foster the participation of the poor in the process of economic growth by increasing their access to employment opportunities and income-generating assets, and by raising the productivity of their assets, both physical and human.

7. In most countries of sub-Saharan Africa, however, the limited availability of reliable data on income distribution and welfare indicators, the limited capability to carry out quantitative and qualitative assessments of the evolution of social conditions and the relative weakness of institutions in charge of macro-economic management and co-ordination make it particularly difficult to turn these concerns into operational policies and programmes. To achieve this objective, there is a powerful argument for a generic, region-wide endeavour for the development and maintenance of statistical data bases on the social dimension of structural adjustment, the realization of studies on the socio-economic implications of adjustment and the reinforcement of the institutional capability of Governments to identify, design and monitor poverty alleviation programmes and projects to be implemented in conjunction with structural adjustment programmes.

8. Against this background, the World Bank has launched, in collaboration with the Regional Programme for Africa of the United Nations Development Programme (UNDP), the African Development Bank (AfDB) and other multilateral and bilateral institutions, a regional project called the Social Dimension of Adjustments (SDA) project, aimed at strengthening the capacity of Governments to integrate the social dimension in the design of their structural adjustment programmes. To this end, the SDA project has been designed to provide support to participating Governments in developing their capacity to design and monitor poverty alleviation programmes and projects, to assess the impact of structural adjustment programmes over time on population groups, and to design and maintain, within the framework of their national systems, adequate statistical data, in particular through the gathering of household data in an integrated manner.

I. LIVING STANDARDS MEASUREMENT STUDY SURVEYS

9. The Living Standards Measurement Study was conceived with three broad purposes in mind: first, the collection of integrated data that capture different dimensions of levels of living so as to be relevant to policy analysis of relationships between the different dimensions; second, provision of these data in a timely fashion; and third, development of an analytical framework to support policy and decision making.

10. A conceptual framework was developed for the policy analysis of levels of living from which the data content of the surveys was derived. The latter was then translated into a questionnaire, and a data collection system was put in place that was consistent with the conceptual framework and met the aforementioned goals. As such, the living standards surveys have five essential characteristics: (a) the survey instrument takes the form of a multi-topic integrated questionnaire; (b) survey and questionnaire design relies on interaction between data producers and data users from the beginning; (c) the survey explicitly embodies an "over time" dimension; (d) quality control is at the forefront of all operations; and (e) data processing is set as an integral part of survey operations.

A. Multi-topic integrated questionnaire

11. Once it is recognized that the concept of levels of living is fundamentally multi-dimensional in nature, it becomes evident that data need to be collected on all, or at least the most important, of these dimensions. In practice, this can be achieved in one of two ways. The first (and most conventional way) is to collect data on each dimension separately through the use of expenditure surveys, labour force surveys, income surveys, health surveys and so on. To be useful for policy analysis, however, these different data must be integrated. This makes it essential that such data have come from one master sample of households or, at least, provide sufficient overlap in households covered so that statistical links between the different surveys can be traced and their implications explored. This requires a relatively sophisticated statistical and data processing system, which only a few developing countries possess. Moreover, such experience as they have had in this area has been generally disappointing. While integration of different surveys was eventually achieved in a few instances, time lags between data collection and data integration exceeded the already long delays typical in the processing of single-topic surveys. As a result of such experience, an alternative approach - i.e., doing the integration at the data collection stage - becomes attractive. This includes obtaining information on the different dimensions of levels of living from the same sample of households. The main practical obstacle to this procedure is that it usually entails a lengthy and complicated questionnaire, which in turn requires skilled enumerators and a considerable amount of patience and stamina on the part of enumerators and respondents alike in collection of the information.

12. Integration at the data collection stage was the approach chosen by the living standards surveys (LSS). The choice was primarily based on the negative experience with past alternative approaches and on the recognition that in such approaches the bottleneck hindering speedier data processing and integration was a major lack of processing capability (hardware, software and programmers) which could not be alleviated in the near future, except at prohibitively high cost and with massive investment. In other words, the use of single-topic surveys with ex post data integration could not in practice meet the essential LSS requirement of timeliness in data production.

13. Having thus concluded that integration at the collection stage was needed, several steps were taken to reduce the negative features of integrated surveys. First, each module was scrutinized to determine the minimum number of survey questions that would be necessary for analysis of the specific topic in the context of levels of living. Second, the administration of the questionnaire was split in two rounds, two weeks apart. The reason for the split was primarily quality control for the collection of expenditure information, but it also had the considerable side benefit of reducing the length of each interview. Moreover, in the administration of the questionnaire, emphasis was placed on talking with individual respondents in the household when individual information was being asked (i.e., the use of proxy responses was minimized). Thus, the actual time during which a particular household member was interviewed was not unduly long. Nevertheless, the LSS instrument is still relatively complex and requires more than the usual amount of preparation and training of enumerators and supervisors.

B. LSMS surveys: survey design and implementation

14. Countries in which LSMS surveys have been implemented use a comprehensive set of questionnaires, some of which are modified to fit specific country characteristics. The comprehensive and integrated nature of these questionnaires is demonstrated by the topics listed below.

Household questionnaire

Housing, both a physical description (including measurement of floor area) and money spent on rent, utilities and other housing related expenses

Educational attainment and current school enrolment of household members (including children away from home) and the amount of time spent in school during the past seven days by those currently enrolled

Health status and the use of health care services, including information on type of care received and the cost of that care

Economic activities, including time at work in the past 12 months and past seven days; money received from work; non-monetary receipts for work for primary, secondary and any other jobs; information on the search for work or the reason why not searching (for those not working); information on the search for additional or new work (for those now working); work history, including work done in the home

Migration, as well as reasons for migrating

Agriculture and animal husbandry, including information on land owned and land rented or sharecropped, crop by crop acreage and output, expenditures on agricultural inputs and equipment owned

Non-agricultural household businesses, with data on revenues and expenditures for as many as three household-operated businesses

Food and non-food expenditures, including food grown and eaten by the household

A listing of household durable goods owned

Fertility and birth history of one randomly selected woman household member of childbearing age

Income from other sources not already listed above

Savings and loans contracted by household members

Anthropometric data, i.e., height and weight of all household members

Community questionnaire (rural areas only)

Characteristics of the local economy, with special emphasis on the physical infrastructure (road conditions, electrification, extension work etc.), types of crops grown and agricultural wage rates

Distance to and characteristics of local primary and secondary schools

Distance to and availability of local health services

Price questionnaire

Local market prices of selected food and non-food items, medicines and agricultural inputs.

15. The survey design has many features that reflect the need to produce high quality data. The sample size chosen is varied depending on country situations, survey capabilities and degree of precision required. Recent LSMS surveys have added flexibility. An essential feature of survey operations is that survey personnel receive intensive training at the individual level. Rigorous training of all survey personnel, consists of four weeks of full-day sessions, including two weeks of practice interviews. Supervision of data collection is intense - for most LSMS surveys there is one supervisor for every two interviewers, and each completed questionnaire is carefully checked by the supervisors. In addition, every fourth household is reinterviewed by the supervisor to check whether the interviewers are adequately carrying out their duties as given in the training manuals. The two-stage sample design selects groups ("clusters") of households, which are interviewed by a team of one supervisor and two interviewers over two separate

weeks. For each of these two weeks the team actually stays in the village or urban area so that all selected respondents can be traced and interviewed at times convenient for them. The data are checked for consistency and completeness by a computerized data entry program. Any errors detected in the first round require the interviewer to return to the household to resolve inconsistencies and finish incomplete questionnaires.

16. The approach adopted overcomes many of the problems encountered in canvassing household surveys in the past. Long periods of time, often several years, to clean the data and prepare statistical reports has been a constraint. Recent advances in computer technology have created new opportunities for survey design, and LSMS surveys are among the first to take advantage of these advances. In fact, LSMS surveys use personal computers at all stages of survey operations. First, when the questionnaire for a particular country is being designed, all pages of the questionnaire are written on a microcomputer and stored on diskettes using computer software specially designed for that purpose. Consequently, after initial field testing of prototype questionnaires, the questionnaire can be modified, literally overnight, and these modifications can be tested the next day.

17. Secondly, after the questionnaire is finalized, a data entry system is developed that allows for immediate entry of the data from the filled-in questionnaire to diskettes. The data entry program is designed to perform many consistency checks at the time of data entry. These checks include simple coding checks, range checks of continuous variables, and more complicated tests on the internal consistency of the data, both within and between questionnaire modules. After the first week in any village, the team returns to regional field offices where the microcomputer is located. During the next week, all the data from the first week's work are entered and checked by the data entry program. The following week the team returns to the same village for a second visit. During this visit, the second part of the household questionnaire is filled out and all errors detected by the data entry program from the first week's work are corrected.

18. Thirdly, with all the data now on diskettes, dissemination of results can take place in a matter of weeks after the last households have been interviewed in the field. For example, the results of the first six months of the Côte d'Ivoire Living Standards Survey were published within two months after the last interviews were completed. Finally, with the continuing advance of the storage capacity of microcomputers, they are increasingly being used for the subsequent statistical work and data analysis.

C. Countries where LSMS surveys have been or will be implemented

19. The following countries have already undertaken LSMS surveys.

(a) Cote d'Ivoire. The Côte d'Ivoire Living Standards Survey began in February 1985 and has now generated three years of data (1985, 1986, 1987). The fourth year of data collection started in May 1988 under the SDA programme as described later. The Ivorian Government has decided to keep the survey as a permanent component of its annual data collection efforts, thus providing a

successful example of institution building component of the LSMS system. The sample size for each year of the survey is 1,600 households. One interesting aspect of the Côte d'Ivoire LSS is that half the households covered in any given year are reinterviewed in the following year; this allows for better analysis of changes in living standards over time.

(b) Ghana. The Ghana Living Standards Survey began data collection in September 1987. The survey was originally intended to run for two years, but it will be extended up to five years under the SDA programme. The Government of Ghana is also planning to integrate this survey with a series of topic-specific surveys, including a more detailed consumer expenditure survey. The sample size is 3,200 households per year.

(c) Mauritania. The Mauritania Living Standards Survey began data collection in December 1987. By the end of 1988, the first year of data collection should be complete. Under the SDA programme, the survey will be extended to four years, with more complete coverage of the population, including the nomadic population. Mauritania is an interesting example in that there existed almost no institutional capacity for undertaking household surveys, so that much of the work encompassed a general upgrading of the capability of the statistical office in that country. As in Côte d'Ivoire, 1,600 households are covered by the Mauritania LSS with an increase to 2,000 households in the second year.

(d) Peru. The Peru Living Standards Survey collected data for a single year from July 1985 to July 1986. The sample size was 5,000 households. The Government of Peru plans to undertake this survey every three to five years.

20. As explained below in a later section of this report, the survey activities in Côte d'Ivoire, Ghana and Mauritania have now been subsumed in the SDA programme. The following countries will begin LSMS surveys in the near future.

(a) Bolivia. The Government of Bolivia is planning to begin an LSMS survey in January 1989. Preliminary field-work started in July 1988 as part of an evaluation of the Bolivian Emergency Social Fund (ESF): a pilot survey was completed in that month in urban areas using the LSMS data management system (i.e., use of custom tailored data entry programs for microcomputers, integration of data entry and editing etc.). The current work plan of the Bolivian statistical office calls for a full-scale two year programme beginning in 1989. The full survey will include 5,000 households per year.

(b) Jamaica. The Jamaican Government will begin preliminary field-work on the Jamaica Living Standards Survey in August 1988. This survey is designed to monitor the impact of the Jamaica Social Well-Being Program, which is currently scheduled to run for five years.

21. Discussions are also under way to begin LSMS surveys in Morocco and Pakistan, and preliminary discussions are being scheduled with the Chinese Government in the fall of 1988.

D. Assessment of the LSMS in achieving its objectives

22. The goal of the LSMS continues to be to provide developing countries and the international development community with the means to assess progress in living standards in developing countries by enabling those countries to produce integrated and comprehensive, high quality data in a timely and cost-effective way. Based on experience with LSS in Côte d'Ivoire and Peru, the overall goals of the programme have been met. An independent evaluation of the Côte d'Ivoire survey by the Research Centre of the International Statistical Institute (The Hague, Netherlands) concluded that there had been some important achievements in the planning of the survey, notably in the use of microcomputers to capture data collected in the field. The speed with which the results had been produced was impressive, and the organizers were congratulated on the ways in which they had overcome the difficulties inherent in the conduct of any major survey in a Third World country. Everything possible should be done to capitalize on the progress that had been made.

23. Although there were considerable doubts about the feasibility of collecting data from households on a large number of topics from an extended questionnaire, on the grounds of respondent fatigue and resistance to lengthy interviewing, experience to date has shown that these fears can be overcome. It had also been contended that respondents in many situations would not be able to respond fully to complex questions. Experience in Côte d'Ivoire and Peru, and preliminary evidence from Ghana and Mauritania, indicate that with proper preparation, lengthy and comprehensive household questionnaires can be successfully administered. In the LSMS surveys, after careful pre-testing and experimentation, it was established that the questionnaires could be administered through two interviews two weeks apart. The average interview takes about two or three hours for each of the two rounds. Questions on individuals (e.g. on labour force activities and income) are addressed to the specific household members, so that in most cases no one person spends more than one hour being interviewed during a given visit to the household, thus overcoming respondent fatigue.

24. Evidence on the degree to which the questionnaire can be completed with the co-operation of the households selected can be seen by examining refusal rates, i.e., the proportion of households refusing to participate in the survey, and by the number of incompletely filled in questionnaires. In the Côte d'Ivoire survey, only 0.9 per cent of households (14 of 1,600 households in 1985 and 15 of 1,600 households in 1986) refused to participate in the survey during the first two years of its implementation. In Peru explicit data were not collected on refusals, so such cases are subsumed in the "other" category regarding the reason why some households did not participate in the survey. This "other" category amounted to 5.4 per cent of the households (275 out of a sample size of 5,000) chosen. In Ghana, on the basis of data gathered during the first seven months of the survey, the refusal rate is less than 1.0 per cent.

25. Further evidence on the ability to complete a long questionnaire comes from the amount of missing data from those households for which a questionnaire was completed. In the Peru and Côte d'Ivoire surveys there were only a few instances of missing data: of the items tabulated, the percentage of such data was never larger than two percentage points, and was usually less than .10 per cent. The

intensive training of interviewers and supervisors, and the use of the computerized data entry system, which flags all instances of missing data and instructs the supervisor to have the interviewers return to the household to complete the questionnaire, clearly is beneficial. Obtaining anthropometric measurements on all household members, since some household members may be travelling, or not at home for other reasons when the interviews are done, is perhaps the most difficult part of the operation. Yet by assigning a separate team member, the anthropometrist, to undertake this task, almost 90 per cent of household members were measured in Côte d'Ivoire.

26. Data quality has been achieved because of the degree to which interviewing is controlled. By means of one supervisor for every two interviewers and the data entry program checking not only for missing data but also for implausible or inconsistent data, along with return visits to the household to obtain accurate responses, it has been possible to maintain quality control. For example, if a child measured by the anthropometrist during the first visit is unusually short or tall for his age, the data entry program flags this and directs the anthropometrist to measure the child again at the next visit. The living standards surveys done in Côte d'Ivoire and Peru had very few cases of inconsistent data after return visits were made to correct errors detected by the data entry program. Another step taken to assure data quality requires that the supervisors themselves be supervised by surprise visits from the core survey team throughout the year. However, the ultimate validation of the data lies in comparisons with data gathered from other sources to establish whether the two sources are consistent.

27. Several such checks have been made on the Cote d'Ivoire data which testify to the high quality of the data:

(a) Comparison of aggregate national consumption figures from World Bank estimates of national accounts for 1985 with consumption data (expenditures plus consumption of food produced and consumed by the household) from the first year of the survey are within 5 per cent of each other. Much of the 5 per cent difference probably arises from differences in coverage of consumption, and sampling errors;

(b) The amount of land planted under various crops, in terms of the proportion of total land area planted in the crop, accords well with data from the Ivorian Government's 1981 agricultural sector report;

(c) Data on fertility from the Côte d'Ivoire LSS are very similar to those gathered in Côte d'Ivoire by the 1980-1981 World Fertility Survey, which used a much larger sample of women.

28. Cost effectiveness of LSMS surveys has been an important consideration. The major recurrent costs involved in LSMS surveys are the salaries of the team members (a typical team has one supervisor, two interviewers, one anthropometrist, one data entry operator and one driver); the maintenance of a vehicle and a microcomputer for each team; and the printing of questionnaires and manuals. The recurrent costs per year (including personnel costs of all field teams plus a management team) were approximately \$200,000 in Côte d'Ivoire during the first two years. They are estimated at about \$350,000 per year in Ghana (note that the sample size in the

latter survey is twice that of Côte d'Ivoire). Initial set-up costs include the purchase of new vehicles if none are presently available, personal computers, anthropometric measuring equipment and a few smaller items. Obviously, these initial costs depend heavily on the existing survey infrastructure of the country. Cost comparisons are often difficult to make, and have not been made. However, in terms of the wealth of information collected and the vast improvement in timeliness of the data, the costs are considered reasonable. In brief, the costs of an LSMS survey compare favourably against conventional single-topic surveys when these factors are taken into account.

E. Adaptability of LSMS surveys to other countries

29. The main issue in adapting LSMS survey technology to other countries concerns the modification of existing LSMS household, community and price questionnaires to accommodate other conditions. Questions relevant in one country may have little meaning in another, and new questions may have to be developed to gather data relevant to the countries concerned. Finally, as certain government policies and programmes may be of special interest, questions may be asked with specific references to such programmes. In each survey for Bolivia, Jamaica and Mauritania, such modifications were made. For these more recent surveys, the parts of the household questionnaire dealing with agriculture and self-employment income were subjected to major revision. Minor changes were also made in other sections of the questionnaires.

30. The computer programs that create pages of the questionnaires allow for quick adaptation of existing questionnaires to new countries, further demonstrating the flexibility of LSMS technology. Starting a LSMS survey in a new country is of course considerably facilitated if a survey infrastructure exists. In such circumstances, the survey can be integrated into an existing survey programme. Prior survey experience can be drawn upon to speed up the transfer process as well as maintain the quality of the entire exercise. Even in situations, as in the case of Mauritania, where survey capability has to be built up from almost nothing, the lead time is less than a year.

F. Policy analysis

31. A wide array of policy oriented research studies and reports have been carried out using the data from Côte d'Ivoire and Peru. The first output from both the Côte d'Ivoire and Peru surveys were statistical abstracts produced jointly by the respective national statistical offices and the World Bank.

32. Following the statistical abstract, among the most important papers to appear initially are detailed profiles of the distribution of welfare, as measured by consumption expenditures, for each country. These have already been completed for Côte d'Ivoire and Peru. Such studies are then followed by more specific papers on a variety of topics. To date a total of 52 working papers have been issued. (Copies are available from the Bank.) Topics include the possible effect of policies on the poor; the effect of instituting user fees on medical services and

school enrolment, productivity of labour in the informal (self-employment) sector; the causes of a poor nutritional status of children; and the role of women in labour markets. Some of this research is currently being used by Governments and by international organizations in designing more effective sectoral and national development policies.

G. Future plans

33. Further work is being done on several fronts by the LSMS Unit in the Bank's Population and Human Resources Department to improve LSMS methodology and facilitate its dissemination. Additional documentation is being developed to explain in detail various aspects of LSMS technology in order to provide the international statistical community with information on how they can undertake LSMS surveys in their own countries. Renewed attention is being given to how LSMS surveys can be integrated into existing survey programmes, such as the National Household Survey Capability Programme (NHSCP) of the United Nations. Also, dialogue is continuing with the academic and development community on strengthening policy analysis with LSMS data, so as to improve the quality of research done on the basis of surveys and ensure that the data collected will be of the type required by economists and other researchers undertaking methodologically rigorous policy-oriented research.

II. SOCIAL DIMENSIONS OF ADJUSTMENT

A. Background

34. As indicated in an earlier part of this paper, the design of appropriate policies to minimize the impact of macro-economic adjustment measures on the most vulnerable social groups in the countries of sub-Saharan Africa has been hampered by the absence of data on the characteristics of these groups. There is now a growing concern among Governments in sub-Saharan Africa and the international donor community and within the Bank itself about the social dimensions of structural adjustment. The issue is recognized to be both complex and pressing. Hence there is great urgency involved in developing data collection, analysis and policy design capabilities within countries. The Social Dimensions of Adjustment (SDA) project has been designed to address these concerns. The survey component of the SDA project will build upon the lessons from the Bank's experience with living standards surveys conducted under the LSMS programme in order to operationalize them and make them more policy relevant.

B. Structural adjustment and the poor in sub-Saharan Africa

35. As noted earlier, a large number of countries in sub-Saharan Africa have experienced growing financial imbalances and a deterioration in the growth performance of the productive sectors since the 1970s. These difficulties originated both from the unprecedented succession of external shocks experienced in the wake of the 1973 and 1979 oil crises, and from the inadequate domestic policies

pursued during the period, including expansionary monetary and public investment policies which were supported by levels of foreign borrowing much beyond the debt-servicing capacity of most countries, as well as from distorted trade and incentive policies that discriminated against the production of tradables in general and against rural sector activities in particular. At the beginning of the 1980s, Governments in the region therefore faced the twin challenge of implementing sharp stabilization policies aimed at restoring internal and external macro-economic equilibria in the short to medium term, while pursuing policies aimed at encouraging the reallocation of resources towards exportable production with a view to laying the foundation for a resumption of self-sustained and balanced growth over the longer term. The latter have become pressing issues recognized by both Governments and the international community.

36. Programmes of structural adjustment generally involve a combination of demand-reducing policies, in particular tight monetary and public finance policies aimed at bringing aggregate demand in line with aggregate supply, and supply-increasing policies, in particular exchange rates, trade and pricing policy reforms aimed at shifting incentives in favour of the production of tradables, especially those meant for export. These programmes also involve improving public sector efficiency in the use of current resources. The planning and programming of public investments is another feature of such programmes. Correcting the financial imbalances, and the contractional impact of demand management policies may have an impact on vulnerable population groups. The design and implementation of policies to foster the participation of the poorer segments of the population in the process of economic growth and the minimization of the adverse impact of macro-policies are key elements and issues of concern.

37. In preparing structural adjustment programmes, the World Bank has been paying increased attention to the social dimension of structural adjustment. In particular, the Bank is focusing on a range of compensatory programmes designed to mitigate the impact of adjustment on vulnerable groups, such as measures to protect social investment in the face of tighter public finance constraints; measures to increase the mobility of unemployed workers, for example training programmes or cash grants to redundant public sector employees; or measures to improve the targeting of food subsidy programmes. At the same time, the World Bank increasingly recognizes the need for country assistance strategies aimed at alleviating poverty.

38. In the countries of sub-Saharan Africa, limited availability of reliable data on income distribution and welfare indicators, limited analytical capability to carry out quantitative and qualitative assessments of the evolution of social conditions and the relative weakness of institutions in charge of macro-economic management and co-ordination make it particularly difficult to turn the Bank's commitment into operational policies and programmes. To achieve this objective, there is a powerful argument for a generic, region-wide endeavour that will capture the benefits of scale in terms of establishing common, sound statistical and analytical methodologies and will promote cross-fertilization among country-specific experiences in the development and maintenance of adequate statistical data bases on the social dimension of structural adjustment. The pursuit of economic and social studies on the social implications of adjustment,

and the reinforcement of the institutional capacity to design and implement programmes and projects aimed at alleviating poverty in conjunction with structural adjustment programmes. This urgent activity is therefore currently hindered by the lack of interpretation of existing evidence, and the non-availability of data on a timely basis.

C. The social dimensions of adjustment and the poor in Africa

39. Against this background, the Bank has launched, in collaboration with the UNDP Regional Programme for Africa, the AfDB and other multilateral and bilateral agencies, a regional project aimed at strengthening the capacity of Governments in the region to integrate the social dimension in the design of their structural adjustment programmes. Funding from these sources has been obtained to finance activities at the regional as well as country level. The Bank has taken on the role of managing the country programmes, but in all instances has endeavoured to co-ordinate SDA activities with other survey efforts managed by other agencies.

D. Project objectives

40. The main objectives of the SDA project are:

(a) To strengthen the institutional capacity of participating Governments to design and monitor poverty alleviation programmes and projects to accompany structural adjustment programmes;

(b) To carry out studies on the socio-economic implications of structural adjustment, with the objective of:

- (i) Assessing trends in the economic and social status of particular population groups in the course of structural adjustment;
- (ii) Identifying possible linkages between structural adjustment policies and changes in the socio-economic conditions of specific population groups;
- (iii) Identifying the need for improvements in existing poverty alleviation programmes and for new programmes aimed at increasing the access of the poor to employment opportunities and income-generating assets and improving the quality of their assets, as well as for complementary programmes aimed at mitigating the transitional impact of adjustment on vulnerable groups;

(c) To strengthen the institutional capacity of participating Governments to develop and maintain, within the framework of their national statistical systems, adequate statistical data bases on the social dimension of structural adjustment, in particular:

- (i) To develop and implement permanent integrated household surveys to measure changes in the living standards of particular population groups throughout the structural adjustment process;
- (ii) To develop and maintain, where feasible, social accounting matrices to measure the interrelationships between changes in macro-economic conditions and changes in the income and consumption patterns of particular household categories in the course of structural adjustment.

E. Project status

41. As executing agency, the World Bank has established within its Africa Regional Office, a Project Unit responsible for implementation of the SDA project in each participating country, and for co-ordination between UNDP, AfDB, the United Nations community, the donor community, participating Governments and the Bank. Formal requests for participation in the project have been received from 25 countries in the region. Staff from the Project Unit have carried out project identification missions in 16 countries of the region: Central African Republic, Chad, Congo, Gambia, Guinea, Guinea-Bissau, Madagascar, Malawi, Mozambique, Senegal, Sudan, Zaire and Zambia. Missions have also been undertaken to Côte d'Ivoire, Ghana and Mauritania. In these last three countries, the supervision of the LSMS surveys have been taken over by the SDA team. Project appraisal missions have been carried out in eight countries: Côte d'Ivoire, Gambia, Ghana, Guinea, Madagascar, Mauritania, Senegal and Zambia. In the Gambia and Guinea, the appraisal was undertaken jointly with AfDB. In several other countries, the appraisal mission was joined by a representative from other international agencies (the Economic Commission for Africa in Mauritania and Zambia, the Food and Agriculture Organization of the United Nations (FAO) in Madagascar and the Organisation for Economic Co-operation and Development (OECD) in Ghana). In Niger and Zambia, the NHSCP project staff have participated in joint missions.

42. Day-to-day implementation of the project is the responsibility of the SDA Project Unit. In order to be able to respond effectively to the high number of requests for participation from countries, the staffing of the SDA Project Unit has been increased significantly. In particular, enhanced survey management capacity will benefit from staff being seconded to the SDA Unit by the Governments of Norway, Switzerland, and the Netherlands, and by the European Communities.

43. A Bankwide Management Committee of senior Bank staff has been established which meets regularly to oversee the execution of the project. A programme Steering Committee has also been established for the project, chaired by UNDP, which includes representatives from the World Bank, AfDB, ECA, the United Nations Children's Fund (UNICEF), the International Labour Organisation (ILO), FAO, the World Health Organization (WHO), NHSCP and OECD. The Steering Committee is also open to any other multilateral or bilateral agency making a contribution to the project (currently Canada, the Federal Republic of Germany, the Netherlands, Norway, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the European Communities and the International Fund for Agricultural Development (IFAD)). The Steering Committee reviews progress reports and work

plans and is charged with the responsibility of providing guidance on overall policies and work programmes. This Committee will meet at least twice a year, and its meetings will be prepared by an informal working group. It may co-opt such other attendance as may periodically be deemed necessary, such as non-governmental organizations and relevant organizations of the United Nations system.

44. SDA has actively pursued collaboration with United Nations specialized agencies (UNICEF, ILO, FAO, WHO), with the Statistical Office of the United Nations Secretariat, NHSCP, ECA and other international agencies (IFAD, OECD and the European Communities). In all instances, the agencies approached expressed their interest in the SDA project and agreed to various types of collaboration.

45. In the past year, SDA project staff have also developed an active dialogue with representatives from various multilateral and bilateral donor agencies interested in the project. These relations led to useful exchanges of information permitting effective co-ordination with activities undertaken by such agencies. These relations also resulted in mobilization of resources for the project. To date, commitments have been received from Canada, the Federal Republic of Germany, the Netherlands, Norway, Switzerland and the United Kingdom. Informal indications of support have been received from several other donors as well.

46. In addition to the original contributions to the SDA project from UNDP, AfDB and the World Bank, the newly mobilized resources permit the funding of national projects in the participating countries. Funding covers capital costs as well as recurrent costs over the four- or five-year lifespan of the national projects, including local costs. The latter include costs of local consultants, local training costs, maintenance and repair, office supplies etc.

47. The establishment of permanent integrated household surveys to measure the changes in levels of living of particular household groups during the structural adjustment process is clearly a major component within the SDA project. For this activity, the project is actively seeking the advice of and collaboration with the international statistical community, including the United Nations Statistical Office, to complement the World Bank's own experience. The latter comes mainly from the Bank experience with integrated living standards surveys which the Bank has sponsored in Côte d'Ivoire, Ghana, Mauritania and Peru as part of the LSMS.

48. Given the positive experience of the Bank with its living standards surveys, an integrated questionnaire is also proposed for the SDA surveys. However, since the SDA project's conceptual framework is more focused than on the broad measurement of living standards, the data content and consequently the questionnaire for the SDA surveys will differ from the LSS questionnaire. In particular, aspects such as health, nutrition and education will receive more emphasis, as it is in those areas where protective measures towards disadvantaged groups may have to be concentrated. The SDA project staff are currently developing the project's conceptual framework. This has been discussed at two international seminars (held at the University of Warwick in November 1987 and at the African Development Bank headquarters at Abidjan in May 1988) attended by representatives from participating Governments, various United Nations and donor agencies, the academic community and Bank staff. On the basis of this work, a concept framework

paper with a prototype questionnaire and prototype plan of analysis has been produced. These, in turn, will be presented at a series of international seminars and meetings over the next 12 months to receive the input of all parties concerned. The prototype instruments can then serve as a starting point for the dialogue within each participating country between data users and producers, in order to shape a country-specific instrument that reflects the policy priorities and the specific concerns and components of that country's structural adjustment programme. It must be emphasized that country priorities and situations will be key elements in determining the content of surveys. Flexibility will be exercised in the design.

F. Interaction between data producers and users

49. Given that the value of data collection ultimately lies in the use made of the information obtained, communication of user needs to data producers becomes an essential component of survey design. Obvious as this point may seem, it is frequently neglected in practice. Administrative and bureaucratic problems often make it difficult for different government departments to communicate with each other; moreover, users are typically experts in specific areas (economics, sociology, labour etc.) who use concepts and terminology that may not be readily accessible to the statisticians and field experts who are in charge of the actual data collection. By the same token, data users are not always sufficiently aware of the practical constraints and limitations of data collection.

50. In the context of the SDA project, much emphasis is placed on the interaction between data users and producers. From the very start of operations in a country, a users' group is set up, consisting of representatives of different user ministries and agencies and interested international organizations, to establish a dialogue with the statistical office. Users' inputs into how the data are collected will thus be an important element. Data users will also be made sensitive to the limitations under which data producers work. Clearly the process is one of mutual education between data users and data producers.

51. The interaction process between users and producers will also ensure that the data content of the SDA survey meets national priorities and that the results will be directly relevant to address national policy concerns. As structural adjustment is an evolving process, data needs for policy analysis will also evolve, and hence the SDA survey instrument will exhibit the necessary flexibility.

G. Explicit "over time" aspects

52. When the focus of data collection is policy analysis, it is essential that an "over time" dimension be incorporated in the survey design. This can be done in one of two ways. The first is to conduct the same survey over fixed intervals in time, say every three or five years. A second approach, of implementing a longitudinal survey, following the same households over a number of years, is an alternative. Success depends critically upon the ability of survey personnel to find households year after year and to retain their co-operation. In developing

countries, where mobility is generally high and address systems may not be very well developed, longitudinal surveys can become prohibitively difficult operations. If too many households drop out from the sample, whether because they refuse to co-operate or because they can no longer be found, the sample quickly loses its representativeness.

53. In the approach used in the Côte d'Ivoire LSS, a hybrid method between the longitudinal and the cross-sectional approaches was adopted, known as a rotational sample. It consisted of replacing 50 per cent of the sample after every year of field-work. Thus, one half of the sample was kept for a second year of field-work and was enumerated twice (one year apart). Such a rotation system avoids the main drawbacks of the longitudinal approach, namely excessive dropping out from the sample. It also contributes to institution building, because the survey operation in effect becomes permanent. This avoids the danger that the experience gained by the survey staff in the first year may be lost over time in the absence of ongoing survey activities.

54. The SDA surveys plan to follow this approach of using a rolling panel design to assess the impact of structural adjustment programmes over time. The optimal parameters of such a permanent survey will need to be determined in each country, in particular the optimal rotation percentage for the sample and whether all modules need to be included on a permanent basis. Ongoing analysis of the Côte d'Ivoire LSS will provide useful experience on the extent to which the survey has effectively captured over-time change overall and on a module-by-module basis. Even though it is recognized that change occurs at a different pace in different aspects of levels of living, it should be carefully assessed whether any resource savings from dropping or adding different modules each year warrants the additional cost of redesigning the questionnaire and data entry system yearly, and of giving needed additional training to field teams.

H. Quality control

55. As noted earlier, LSMS has placed great emphasis on quality control of field operations, in particular the reduction of non-sampling error. It is generally agreed that non-sampling error increases with sample size - the larger the sample, the harder it is to manage the operation competently, to recruit skilled enumerators, to maintain consistency of enumerator behaviour throughout the operation, to maintain adequate supervision etc. Unfortunately, the relationship between sample size and non-sampling error cannot, as neatly, be captured in formulas as is the case for sampling error. Hence, it is not always clear where the trade-off point occurs between decreasing sampling error and increasing non-sampling error as sample size rises. The SDA survey design will take a pragmatic approach: sample size will be determined in the light of the countries' survey management capabilities, resource availability, and analytic needs for disaggregated results for regions and socio-economic groups. Three elements of quality control which were found important and successful in the living standards surveys, will be retained in the SDA surveys. First, the ratio of supervisors to enumerators will be higher than is usually the case. This will allow the supervisor to take many more explicit steps to control the work of the enumerator

than is normally feasible. Second, special attention will be paid to intensive training of enumerators, involving in-class and in-field work. Field staff will periodically return to headquarters to receive refresher courses. The third and most important aspect of quality control will be the use of microcomputers in the field, permitting data entry, validation and consistency checking while the team is still in the field, as described earlier.

56. In the SDA surveys, initial data processing will thus be an integral part of survey operations. Moreover, the use of microcomputers in the field also makes the preparation of data for analysis much easier. All household data from a cluster can fit into one data diskette and the data are loaded in the field. The diskettes then merely need to be transported to the statistical office headquarters where they can be read by another microcomputer equipped with a hard disk, or by a minicomputer. The data can then be organized directly into systematic files for data analysis using conventional software, such as SPSS or SAS.

57. The critical question for the design of SDA surveys however, is: which of the LSS features discussed in the previous section were the key elements to success - elements which therefore ought to be safeguarded in the design of SDA surveys - and where in the Survey methodology is there need for further refinement? Three critical elements contributed to the success of the living standards surveys: first, the integrated questionnaire design; second, the two-round survey system; and third, the integration of data processing and data collecting, as part of quality control operations.

58. One must of course recognize that the living standards surveys in Côte d'Ivoire and Peru were not perfect operations. Survey taking is both a science and an art, and the process is in a constant state of evolution. Certain aspects of the LSS operation could have been done better. Certain trade-offs were made because of time constraints or for budgetary or other reasons, leading in some cases to higher than expected costs in terms of data quality.

59. However, in the spirit of a continuous striving towards collecting better data than was possible in the past, the SDA surveys intend to incorporate not only the successful features of the living standards surveys, but also to build on the lessons learned to improve the product. For example, the small sample size in Côte d'Ivoire, in conjunction with the self-weighting nature of the sample, resulted in several analytic limitations, particularly in a country that is not socio-economically homogeneous and where the distinction of multiple analytic domains is necessary. The SDA surveys will need to match sample design and size better to the analytic requirements.

60. Improvements in questionnaire design are also possible. The design of the questionnaires for the Côte d'Ivoire and Peru surveys entered what was almost virgin territory in some areas. It is understandable, therefore, that not every section of the questionnaire performed equally well. Future surveys will put more emphasis on pre-testing relatively novel questionnaire components, and they should also test alternative approaches. This is particularly important for the sections dealing with non-farm household enterprises, infrequent household expenditures, and consumption of home produced food.

61. As was emphasized above, one of the key elements in the success of the LSS was the integration of data processing and data collection in the field, in which the microcomputers assigned to the field teams played an important part. As the technological frontier continues to shift, these computers can be expected to become more powerful in terms of data processing and storage capabilities. This will enhance the potential for including more and more complex consistency checks into the data entry programme. It is also essential to ensure, in the context of the SDA project, that the technology and know-how to design and operate such a data entry system are effectively transferred to the participating countries. The LSMS software's value was to demonstrate the feasibility of comprehensive data checking in the field on microcomputers, and it has served this purpose well. It is now, however, necessary to go further, and put in place a data entry system for the SDA surveys with the same (or better) technical characteristics, but which in addition is user friendly, well documented, and demanding a level of programming ability not exceeding what is generally available in developing countries. Such a system will be put in place in participating countries, together with an appropriate training programme, as part of the SDA project's capability building efforts.

62. The ongoing increases in the power of microcomputers will also make it possible to store and analyse the large amounts of data generated by an integrated survey directly onto a computer of model compatible to those used in the field. This will not only reduce hardware costs, but will also eliminate the step of transferring the data from diskettes onto a minicomputer or mainframe. Ultimately, it will become possible to eliminate the step of data entry in the field office by providing enumerators with lap-top computers, in which respondents' answers will be directly keyed in and subjected immediately to validity and consistency checks. Those computer diskettes will be directly readable by the microcomputers used for analysis. The SDA project is currently setting up an experiment to test out the use of lap-top computers in the field.

63. Lastly, the use of microcomputers for data analysis continues to increase as more and more microcomputer versions of statistical analysis software become available. These various new and developing technologies will gradually have to be incorporated in the SDA survey methodology to take advantage of the possibilities they offer to further enhance data quality and ease and speed of data processing. The SDA project will provide participating countries not only with the necessary hardware and software to enable in-country analysis of SDA survey data, but also put in place the necessary training programmes to augment the human resources available to statistical and planning offices, in order to effectively enhance analytic capability within countries.

I. Co-ordination

64. A final element to be considered and lesson to be learned from the LSMS experience is the need to consider other ongoing programmes of data collection, especially single topic household surveys, in the participating countries when putting in place the SDA surveys. Participation in the SDA project will constitute a major part of the activities of many national statistical agencies in Africa over the next several years. It is important, therefore, to ensure co-ordination

between the SDA surveys and other statistical projects and survey operations, so that they make the maximum possible contribution towards enhancing national capabilities. The SDA project staff are aware of this need for co-ordination, which has already found its expression during contacts with other international agencies involved in data collection efforts in sub-Saharan Africa. In particular, SDA project staff have discussed co-ordination with ECA and NHSCP/United Nations Sudano-Sahelian Office (UNSO), to ensure that the respective programmes are complemented. A principle agreement on the implementation of such co-ordination has been reached, and SDA project staff look forward to co-operating in the field with ECA and NHSCP/UNSO staff.

65. In practice, co-ordination between the SDA project and other survey programmes needs to be established both at the substantive and operational levels. The former pertains to avoiding duplication of topics and complementarity of analysis. The latter pertains to the organization of field-work, use of local resources etc. One promising scheme to achieve substantive co-ordination is to establish the SDA survey as a permanent multi-purpose core survey conducted with largely unchanging content over time, whereby the sample for the survey is drawn from a master sample. The latter could then also generate (typically larger) samples for one-topic surveys which would change from one year to the next. As appropriate, these surveys may explore in greater detail certain topics included in the SDA survey. Owing to the usual difficulties in linking data from different surveys, it may be best to retain a topic in the SDA survey even if the topic has been covered in-depth in another survey. Operational co-ordination can be achieved by participation of one agency's staff in the project appraisal or formulation missions of the other agency in countries where both agencies are active, in order to co-ordinate use of local resources, timing of the field-work, and other operational aspects. This is to be complemented by regular working level meetings of headquarters staff involved in the programmes. Obviously, the practical ways in which co-ordination is effected in the field will have to be determined in the case of each country, with the full support of the national statistical office.

66. The organization and implementation of household surveys in the sub-Saharan African countries that are and will be participants in the SDA project is a very challenging task. The surveys must provide the empirical basis for the design of well targeted poverty alleviation programmes and programmes to mitigate the transitional costs of adjustment to vulnerable groups. The task is urgent as the hardships of poverty in many countries are severe.

III. POINTS FOR DISCUSSION

67. The Commission is invited to take note of:

(a) Experience with integrated household sample surveys initiated by the Bank under its LSMS, as a powerful instrument for gathering socio-economic data. The use of microcomputers as a tool in increasing both timeliness and the quality of data is to be noted in particular;

(b) The Bank's initiative, in co-operation with other international agencies (UNDP, AfDB etc.) and bilateral donors, in launching the SDA programme in countries of sub-Saharan Africa in the context of the programme of structural adjustment;

(c) The strong co-ordination and collaboration of effort between the Bank and other agencies in implementing survey programmes;

(d) The emphasis on capability building in the areas of data collection, analysis and policy design of the SDA programmes;

(e) The active and enthusiastic participation of member countries in the two programmes.

68. The Commission is invited to comment on and endorse:

(a) The methodological and design aspects of the household surveys which the Bank has sponsored with their strong emphasis on collecting integrated data in survey operations and the use of microcomputers to improve both the quality and timeliness of data;

(b) Co-operation between the Bank and other United Nations agencies in implementing the various international programmes;

(c) The Bank's commitment towards strengthening national capabilities in gathering relevant socio-economic data and their use in the context of national programmes of adjustment;

(d) Documentation of the experience and its dissemination to all member countries.

69. The Commission may wish to request the Bank to report further on its survey programmes to the Commission at its twenty-sixth session.
