

P.N. AEA-505
93824

A

Alternative Survey Methodologies for Monitoring and Analyzing Poverty in Sub-Saharan Africa

***A Study for the SPA
Working Group on
Poverty and Social
Policy***

Funded by the U.S. Agency for International Development under the Macro and International Economic Analysis Indefinite Quantity Contract No. AEP-5451-I-11-2059-00

David S. Kingsbury
Ellen Patterson Brown
Prosperè Poukouta

January 1995

B

ACKNOWLEDGMENTS

The authors thank Joan Atherton from the Office of Development Planning, the U.S. Agency for International Development, for her extremely useful guidance throughout the study. The input of Timothy Marchant, Antoine Simonpietri, and Andrew Norton of the Human Resources Division of the World Bank's Africa Technical Department was also greatly appreciated. Christine Estaque, Sean Garretson, David Mather, Malaika Riley, and Bagie Sherchand of Development Alternatives, Inc. made valuable contributions as research assistants.

The principal author visited New York, Ghana, Kenya, Malawi, and Zimbabwe in preparing this study; thanks go to all those who took time out of their busy schedules in these locales as well as in Washington to give us a better sense of the reality of poverty monitoring and analysis in Sub-Saharan Africa.

The opinions expressed in this paper are those of the authors and do not reflect official USAID policy. All errors and omissions are also the responsibility of the authors.



TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	ix
 CHAPTER ONE INTRODUCTION	
	1
STUDY OBJECTIVES	1
RANGE OF METHODOLOGIES TO BE EXAMINED	3
WHAT IS POVERTY?	5
Income Measures	6
Nonincome Measures	9
WHAT ARE THE ROOT CAUSES OF PERSISTENT AFRICAN POVERTY?	10
 CHAPTER TWO TYPICAL USES OF POVERTY DATA	
	13
OVERVIEW OF POTENTIAL USES OF POVERTY DATA	13
POVERTY MONITORING	15
Poverty Monitoring at the International Level	16
Poverty Monitoring at the National Level	20
EARLY WARNING SYSTEMS	23
Categories of EWS	23
Criteria for Indicators of Vulnerability	25
Areas of Mutual Benefit	25
 CHAPTER THREE MAJOR METHODOLOGIES FOR COLLECTING POVERTY DATA	
	29
QUANTITATIVE APPROACHES	29
Living Standards Measurement Study	29
The Social Dimensions of Adjustment Survey Methodologies	34
Demographic and Health Surveys	38
Other Sources of Quantitative Data	39
QUALITATIVE APPROACHES	43
Representativeness of Findings from Qualitative Analysis	44
Qualitative Methodologies	44
HYBRID APPROACHES	50
Sentinel Site Surveillance or Sentinel Community Surveillance	51
Knowledge, Attitudes and Practices Studies	52



CHAPTER FOUR		
STRENGTHS AND WEAKNESSES OF THE METHODOLOGIES		55
MINIMIZATION OF SAMPLING AND NONSAMPLING ERROR		55
Sampling Error Minimization		55
Nonsampling Error Minimization		58
TIMELINESS		61
VERSATILITY		63
Multiple Uses		64
Disaggregation and Geographic Versatility		65
Versatility for Making Cross-Country Comparisons		67
COST-EFFECTIVENESS		69
Financial Costs		69
Full Use of Data		71
LOCAL OWNERSHIP		73
Local Participation in Analysis		73
Repeat Use		75
CHAPTER FIVE		
DETERMINING THE APPROPRIATENESS OF ALTERNATIVE METHODOLOGIES FOR POVERTY MONITORING AND ANALYSIS		77
DETERMINING PRIORITIES AND RESOURCE REQUIREMENTS		77
CHARACTERISTICS OF EFFECTIVE NATIONAL POVERTY MONITORING AND ANALYSIS SYSTEMS		79
ADDITIONAL CONCERNS		86
BIBLIOGRAPHY		89
ANNEX A: EXPLANATIONS OF COMMONLY USED SOCIAL INDICATORS		A-1
ANNEX B: GLOSSARY OF QUALITATIVE TECHNIQUES AND TERMINOLOGY		B-1
ANNEX C: LIST OF CONTACTS		C-1
ANNEX D: SCOPE OF WORK		D-1

LIST OF TABLES, FIGURES, AND BOXES

<u>Table</u>		<u>Page</u>
1	Importance of Different Criteria by Use of Poverty Data	13
2	Social Indicator Data Availability for Africa	17
3	Poverty Measures and Indicators	19
4	Sub-Saharan African Early Warning System Coverage	24
5	Summary of Survey Methodology Strengths and Weaknesses	56
6	Approximate Implementation Time for Selected Survey Methodologies	61
7	Highest and Lowest Ranking Countries and Subnational Areas on Selected Demographic and Health Indicators for Selected Sub-Saharan African Countries	68
8	Approximate Average Variable Costs for Survey Implementation	71
9	Data Collection Strategies for Key Poverty Indicators	80
10	Survey Content and Timing of a Prototypical National Poverty Monitoring and Analysis System	82
 <u>Figure</u>		
1	Mapping Alternative Approaches for Poverty Monitoring and Analysis	4
2	Determinants of Impacts of Policy Analysis	70
 <u>Box</u>		
1	The Human Development Index	18
2	The Institutional Crisis of Statistics in Africa: An Example from Kenya	21
3	Cost-Effective Early Warning Indicators: An Example from Chad	26
4	A Prototype LSMS Household Questionnaire	31
5	Major Elements of the Priority Survey Household Questionnaire	37
6	A Prototype Demographic Health Survey	40



7	Rapid Turnaround Policy Monitoring Surveys: Examples from Kenya and Malawi	43
8	Overview and Comparison of Selected Qualitative Methods	46
9	The Anthropological Roots of Qualitative Methodologies	47
10	Use of Intensive Anthropological and Sociological Methods: The Urban Poor in Malawi	49
11	Elements of the Informal Interview	50
12	A Prototypical Sentinel Site Surveillance Cycle	51
13	Overview of the First Round of Sentinel Site Surveillance in Uganda	53
14	Knowledge, Attitudes and Practices Surveys: Girls' Access to Education in Malawi	54
15	Timely and Cost-Effective Small Household Surveys: Assessing Urban Poverty in Nairobi	63
16	Flexibility in Responding to the Concerns of Policy Makers: Sentinel Site Surveillance in Zimbabwe	65
17	Use of Rapid Assessment Procedures Across Cultures: Attitudes and Practices Related to Primary Health Care	70
18	Extent of Analysis of Côte D'Ivoire and Ghana LSMS Data	72
19	A Checklist for Identifying Priorities and Resource Requirements	78
20	The Politics of Poverty in Malawi	87

LIST OF ABBREVIATIONS

ADD	Agricultural Development Division (Malawi)
AGRYMET	Agronomic Hydrological Meteorological Organization
BA	Beneficiary Assessment
CBS	Central Bureau of Statistics (Kenya)
CMR	Child Mortality Rate
CILSS	Comité Inter-Etat pour la Lutte Contre La Sécheresse au Sahel
CPI	Consumer Price Index
CS	Community Survey
DHS	Demographic and Health Survey
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
FEWS	Famine and Early Warning System (USAID)
FGT	Foster-Greer-Thorbecke Index
FSNM	Food Security and Nutrition Monitoring (Malawi)
GDP	Gross Domestic Product
GIEWS	Global Information and Early Warning System (FAO)
GLSS	Ghana Living Standards Survey
GSS	Ghana Statistical Service
HDI	Human Development Index
IASM	Intensive Anthropological and Sociological Methods
IDRC	International Development Research Centre (Canada)
IDS	Institute of Development Studies (Sussex, England)
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IRD	Integrated Rural Development
IS	Integrated Survey
KAP	Knowledge, Attitudes and Practices Survey
LSMS	Living Standards Measurement Study
NASSEP	National Sample Surveys and Evaluation Programme (Kenya)
NGO	Nongovernmental Organization
NSO	National Statistics Office
NHSCP	National Household Survey Capability Program (United Nations)
PMCU	Poverty Monitoring Coordination Unit
PRA	Participatory Rural Appraisal
PS	Priority Surveys
PSU	Primary Sampling Unit
RAM	Rapid Appraisal Methods
RAP	Rapid Assessment Procedures
RRA	Rapid Rural Appraisal
RRC	Relief and Rehabilitation Commission (Ethiopia)
SADC	Southern African Development Conference
SAP	Système d'Alerte Précoce
SDA	Social Dimensions of Adjustment
SPA	Special Program of Assistance for Africa
SSS/SCS	Sentinel Site/Community Surveillance
TFR	Total Fertility Rate

A

UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNSO	United Nations Statistical Office
USAID	United States Agency for International Development
WFP	World Food Programme
WHO	World Health Organization



EXECUTIVE SUMMARY

STUDY OBJECTIVES

The four primary objectives of this report are to:

- Describe the principal types of poverty data that exist and their uses — both actual and potential;
- Identify the principal quantitative and qualitative survey methodologies used for poverty monitoring and analysis in Sub-Saharan Africa, and their principal characteristics in resource requirements and information typically generated;
- Identify the strengths and weaknesses of each of these approaches based on a standard set of criteria; and
- Outline a decision-making framework to aid African governments and other interested parties in determining what types of poverty monitoring systems and methodologies are most appropriate for their countries.

It was not an objective of this study to judge the appropriateness of different analytic techniques for poverty monitoring and analysis (such as the pros and cons of different types of economic modeling approaches), although choice of appropriate indicators are discussed as are the criteria that govern the usefulness of analysis and of monitoring information to decision makers. Nor was it an objective of this study to pronounce on what policies, programs, and projects are of greatest benefit to the poor.

The report is intended for two broad audiences. It will inform decision makers in African governments and development practitioners in the field on the array of poverty monitoring and analysis tools at their disposal, the relative merits of these tools, and the key aspects of effective national poverty monitoring systems. The report also targets donor agencies — several recommendations are presented on the types of data collection, analysis, and institutions they should be supporting.¹

USES OF POVERTY-RELEVANT DATA AND ANALYSIS

There are many different potential uses and users of poverty-related data. These include research; policy analysis; poverty monitoring; famine early warning systems; project design, implementation, and evaluation; and policy advocacy. Coordination between users is often problematic because, in part, different categories of users bring different criteria to the table for judging the usefulness of data, methodologies for collecting them, and analysis techniques. Criteria that users apply include the "richness" of data (for drawing out potentially complex causal relationships), statistical reliability, timeliness of data generation and analysis output, ease of communication, cost-effectiveness, regional specificity, and local ownership.

¹ For additional information on report objectives, context, and content see Annex D, which contains the Scope of Work.

This report is concerned primarily with poverty monitoring. However, the boundary between monitoring and analysis is arbitrary. For purposes of this report, analysis is defined as empirically based work that seeks to understand causes of poverty, including relationships between key variables that explain why some people are poor while others are better off. Monitoring tracks the evolution of poverty status (based on both income and non-income indicators) without necessarily pursuing detailed understanding about why change occurs or how causal variables interact to affect change.

PRINCIPAL METHODOLOGIES EXAMINED

Survey methodologies used in developing countries are often categorized as either *quantitative* or *qualitative*. This dichotomy can serve as shorthand for the approaches used by economists and statisticians (quantitative) and those used by anthropologists, sociologists, and political scientists (qualitative). Such rigid either/or classifications may be misleading. This study employed a more useful approach; it placed survey methodologies on a continuum based on statistical representativeness and on the subjective and direct-measurement nature of the data the methodologies typically generate (see Figure 1, Chapter One). Many "quantitative" survey efforts borrow tools traditionally labelled "qualitative" and vice versa. With this caveat in mind, the report does lapse into the quantitative-qualitative shorthand because readers will be comfortable with these classifications.

The report examines the pros and cons of the following probabilistic survey methodologies: the Living Standards Measurement Study (LSMS) survey developed by the World Bank; the World Bank Social Dimensions of Adjustment (SDA) package of Integrated (IS) and Priority (PS) surveys; the USAID-sponsored Demographic and Health Survey (DHS); and other quantitative surveys such as household income and expenditure surveys (that may be national or subnational in scope) and subnational, policy-related surveys. In this context, the term quantitative signifies that they share the characteristics of probability sampling of the national population and data gathering is based primarily on questionnaires dominated by closed-ended questions.

Regarding nonprobabilistic methodologies (commonly labelled qualitative), the study assesses intensive anthropological and sociological methods that have been adapted for assessing poverty and well-being, rapid appraisal methods, and participatory rural appraisal. Here again, the bipolar distinction of probabilistic and nonprobabilistic needs to be nuanced. Some of these methodologies may employ statistical sampling methods, but these are for distinct subsets of the national population.

Two hybrid methodologies that use a combination of quantitative and qualitative techniques are also explored. These include sentinel site surveillance (SSS) and knowledge, attitudes, and practices (KAP) surveys.

STRENGTHS AND WEAKNESSES OF THE METHODOLOGIES

In Chapter Four, the pros and cons of each of the methodologies are assessed, based on the following criteria: sampling and nonsampling error minimization; versatility; replicability and comparability over time; timeliness for obtaining usable results and analysis; intensity of human resource and skills requirements for data collection, processing, and analysis; cost-effectiveness; and evidence of local ownership (acceptability and perceived usefulness to host governments and other local institutions).

K

The table on the next page summarizes the main strengths and weaknesses of each of the methodologies. In general, large-scale national surveys yield rich statistical data that can be useful to analysts across a number of sectors. Findings also tend to be credible to decision makers because they are typically more comfortable with national statistics than with subnational ones that may or may not be applicable to the nation as a whole. The principal drawbacks of national surveys include high costs and slow turnaround between data collection and availability of results. In addition, they are of limited use at subnational levels. Also, because they are so dependent on structured questionnaires, they often have difficulty revealing complex relationships.

Principal strengths of more qualitative methods include low cost and quick turnaround time relative to nationwide quantitative surveys. They are also useful for identifying coping strategies and sorting out complex causal chains. As such, they can provide reality checks on quantitative findings. That said, they have a limited track record in poverty monitoring and analysis (and policy analysis in general), and it will require some time to better define areas where their practical value is greatest. They also lack credibility in the eyes of some policy makers who may view them as anecdotal and too subjective, preferring instead nationally representative quantitative analysis.

Potential contributions of more modest, quick turnaround monitoring surveys (such as SSS) and thematic or ad hoc studies should not be overlooked. SSS is a timely and flexible tool that can be used for capacity building as well as for poverty monitoring. Ad hoc surveys can provide rich analysis on discrete topics. If a carefully considered purposive sampling scheme is used, these can be invaluable at the national level.

RECOMMENDATIONS ON NATIONAL POVERTY MONITORING AND ANALYSIS SYSTEMS

To reach a better understanding of the causes of poverty, and to track evolution over time, a creative and well-thought-out mix of quantitative and qualitative survey methodologies is the best approach.

No single methodology meets all the monitoring and analysis needs of users of poverty data. If combined thoughtfully, quantitative and qualitative approaches are complementary — not mutually exclusive. The presence of one enhances the reliability and credibility of the other.

National poverty monitoring and analysis systems need to be realistic, flexible, and practical. The systems should have the capacity to generate useful data for informing major policy questions within a reasonable timeframe.

To date, pragmatism and realism have not always been top priorities for survey work related to poverty monitoring and analysis. The outcome has usually been a huge backlog of unanalyzed data at the same time that decision makers remain starved of policy-relevant information. This situation is as much the fault of the decision makers themselves as of anybody else, because they often fail to appreciate the tradeoffs between costs of collecting data and benefits from improved information. Although every-

L

OVERVIEW OF STRENGTHS AND WEAKNESSES OF THE METHODOLOGIES

Methodology	Strengths	Weaknesses
Living Standards Measurement Survey & Integrated Survey	<ul style="list-style-type: none"> ● Rich data ● Multiple uses ● Low nonsampling error ● National statistical extrapolation ● Ability to correct for seasonality ● High credibility among policy makers 	<ul style="list-style-type: none"> ● High cost ● Time-consuming ● Limited flexibility for geographic disaggregation
Priority Survey	<ul style="list-style-type: none"> ● Quick turnaround and low cost (relative to other national surveys) ● Multiple use ● National statistical extrapolation ● Flexibility for disaggregation 	<ul style="list-style-type: none"> ● High nonsampling error ● Seasonal bias and inability to account for year-round variations due to single visit enumeration ● Limited information of causal factors ● Not useful for intrahousehold analysis
Demographic and Health Survey	<ul style="list-style-type: none"> ● Rich data ● National statistical extrapolation ● Flexibility for disaggregation ● Meaningful cross-country comparisons possible ● High credibility among policy makers 	<ul style="list-style-type: none"> ● High cost ● Time-consuming ● Limited capacity building potential (as currently implemented) ● No income/expenditure data collected, so correlations between health and income cannot be analyzed
Sentinel Site Surveillance	<ul style="list-style-type: none"> ● Low cost and quick turnaround time ● Flexibility to modify questionnaires ● Useful for capacity building at the national and subnational levels ● Reality checks built in via feedback to participants 	<ul style="list-style-type: none"> ● High nonsampling error ● Seasonal bias ● Limited information on causal factors ● Potential for test group bias if panel approach used ● May be perceived as anecdotal by policy makers
Rapid Appraisal Methods & Participatory Rapid Assessment	<ul style="list-style-type: none"> ● Good for outlining coping strategies and complex causal factors ● Reality check on quantitative surveys ● Low cost and quick turnaround time 	<ul style="list-style-type: none"> ● Statistical extrapolation not possible ● Policy implications not always evident ● Limited track record of use for policy analysis related to poverty ● May be perceived as anecdotal by policy makers
Intensive Anthropological and Sociological Methods	<ul style="list-style-type: none"> ● Provides more detailed information on specific subjects than RAM ● Good for tapping opinions and perceptions of users of public services ● Reality check on quantitative surveys ● Low cost and quick turnaround time (relative to quantitative survey methods) 	<ul style="list-style-type: none"> ● Statistical extrapolation not possible ● Reliance on traditional social assessment methods renders interpretation subjective ● Limited track record of use for policy analysis related to poverty ● Somewhat more time-consuming compared with other qualitative methods
Ad Hoc Surveys	<ul style="list-style-type: none"> ● Low cost and quick turnaround time ● Rich data on specific topics ● Ability to track perceptions and attitudinal change (KAP studies) ● Statistically efficient purposive sampling possible 	<ul style="list-style-type: none"> ● Statistical extrapolation not always possible ● May be perceived as anecdotal by policy makers

M

body would prefer to have high-quality, nationally representative data, this is rarely possible within a reasonable timeframe. Nor is it necessary for most of the policy and investment-related decisions that governments are called upon to make. Many government decisions are based on a complete lack of serious empirical analysis; integrating even the simplest commonsense survey findings into this process would be a net improvement over the way policy and investment decisions are often made.

Because it is so widespread, the data backlog problem must be acknowledged head-on by lowering dependence on frequent, large-scale national surveys. Consequently, national surveys such as LSMS, IS, PS, or DHS should be done once every 3-5 years, but not annually.

In countries with the most institutional capacity to carry out nationwide surveys, proper administration of data collection in the field does not present major problems. On occasion, there are problems in data processing, but on average, the microcomputer revolution has greatly reduced potential bottlenecks at this stage. However, timely and full analysis remain major stumbling blocks. Unfortunately, this problem will not go away anytime soon. Those who design systems for monitoring and analyzing poverty must adapt to it by lessening over-reliance on frequent large-scale national surveys. We believe that the SDA-recommended approach of an annual nationwide survey (an IS every 4-5 years with a PS in each in-between year) is too ambitious, even in the best-endowed countries: the data overload will simply be too great. Instead periodic national surveys should be done in combination with more rapid turnaround, regular monitoring systems and with narrowly targeted, subnational surveys on a limited number of priority poverty-related policy issues.

Instead of annual time series, analysts should compare point estimates several years apart for discerning nationwide trends in poverty reduction and improvements in welfare.

Although this may seem a distant, second-best solution to some, the track record indicates that longitudinal analysis has either been generated late (Côte d'Ivoire) or has been minimal (Ghana).

Whether an LSMS, IS, or PS, longitudinal analysis centers on identification of income and expenditure patterns; on causal relationships related to economics, employment, demography, health, nutrition, education, and infrastructure availability; and on periodic composition of poverty profiles and estimates of the poverty line (either relative or absolute). These data can be used for establishment of baselines for selected key indicators that can then be monitored with regular surveys, thematic studies, and ministry-generated secondary data.

For poverty analysis related to health and demography, analysts could also avail themselves of periodic DHS surveys. Because of expense and the volume of data generated, DHS should be carried out only once every five years. As with other types of nationwide surveys, monitoring of baseline indicators generated by DHS could be accomplished with semiannual small surveys and secondary data from Ministries of Health. Trend analysts could use a combination of point estimates every five years from the DHS and data from the regular monitoring surveys and secondary data sources.

For regular monitoring of poverty status and selected policy issues, sentinel site surveillance or a variation thereof can be used.

Although relatively new to Africa, the record of SSS on timeliness has been impressive, with results available within six months. SSS could be used to monitor access to poverty programs such as social funds, selected health and nutrition indicators, and policy-related questions where policy makers

N

want to get a quick sense of recent developments (but not detailed analysis). SSS can also be used for building analytic and planning capacity for national- and regional-level civil servants. Regarding monitoring of indicators, however, one must be aware of the potential for test group bias if a panel survey approach is used. This will limit reliability for extrapolating results to the general population.

Thematic quantitative and qualitative studies and surveys are appropriate for analysis of key policy issues needing timely clarification, for filling analysis gaps not covered by other methods, or for deeper analysis of questions raised by large national surveys.

In addition, thematic studies can be used to analyze poverty-related issues where sociocultural attitudes and beliefs are thought to be especially important. Large-scale quantitative surveys only scratch the surface here. KAP surveys have been used to study factors that influence the decision of girls and their parents to enroll in and leave school and attitudes and practices related to preventive and curative health care. Quick turnaround policy monitoring studies have also been effective in many countries in getting reliable and timely information to decision makers.

Sectoral ministries can commission such studies, which should have a turnaround of 4-6 months. In many cases, it is possible to use master samples from recent national censuses as a basis for purposive choice of enumeration areas, and random sampling within these. This can be done for both quantitative and qualitative surveys, allaying suspicions that results are merely anecdotal.

Secondary data can be used more effectively for monitoring indicators when governments collect the necessary data on a regular basis.

Education ministries typically tabulate data on gross and net school enrollments, male/female ratios, repeater rates, and so on. Ministries of Health regularly collect clinic and hospital data on child nutrition status, disease incidence, and inpatient and outpatient visits. National statistics offices (NSOs) collect price and wage data. These data are of uneven quality and reporting systems along the ministry chain of command are often poorly organized. Donors can continue to support improvements in these areas. Even if bias remains in the data, they can still be used for signalling directional and marginal changes in social service access or purchasing power that impact on the poor and signal the need for more detailed study. Simple terms of trade indices can be used for signalling fluctuations in purchasing power. If the data seem to indicate declining food access for the poor, this would signal the need for more detailed analysis and groundtruthing.

Related to secondary data, assembling and synthesizing the available national and subnational literature on poverty should be a key role of any national poverty monitoring unit.

In most African countries, a multitude of potentially useful documents are ignored. As a result, subsequent studies and surveys are not as clearly focused as they should be. The common plea that "We don't know anything about . . ." usually reflects a failure to peruse what has already been written, or to sufficiently analyze data already collected. Preparing such literature reviews costs little, and may result in large pay-offs in garnering useful "new" information and making future survey efforts more cost-effective.

The national poverty monitoring and analysis system proposed in the final chapter is generally less ambitious than what is currently occurring in many African countries. The majority of African countries should have the ability to carry out some form of the prototype system outlined there. We are

only proposing a system with a higher probability that data collected will actually be analyzed in a timely fashion. This will be achieved by shifting the current balance away from frequent large-scale national surveys toward frequent monitoring surveys and focused qualitative and quantitative studies on specific themes — recognizing the potential complementarities that exist between approaches. In addition, a more rational and cost-effective division of labor is needed between NSOs and sectoral analysts in ministries, local universities, and research institutes.

Greater efforts need to be made to seek the input of local populations in the identification of indicators of poverty and well-being.

When brought into the process through identification of coping strategies, the poor themselves can identify indicators that can then be tracked far more cost-effectively than, say, changes in income and expenditure as measured through traditional household surveys. Although participatory poverty assessments carried out in several countries provide a glimpse of how this might work, cost-effective indicators based on local perceptions have not yet been incorporated into poverty monitoring systems in any appreciable way.

Gender disaggregation is critical for obtaining an accurate picture of the evolution of poverty and welfare.

Women have less access to capital, technology, and services than men and are thus disproportionately among the ranks of the poor. In times of crisis, they are under special financial, physical, and psychological stress because their most important asset, labor, is stretched to the limit and beyond. Reaching a fuller understanding of their resource constraints and coping mechanisms is a prerequisite to identifying strategies with the potential for reducing poverty among all vulnerable groups. Quantitative household-level data for gender-disaggregated analysis are generally not lacking: efforts to analyze these data and monitor the evolution of women's welfare need to be reenforced. More qualitative work is required to gain a greater appreciation of the gender-related dynamics of intrahousehold decision making and of women's coping strategies in times of stress. For detailed gender and intrahousehold analysis, a combination of qualitative methods and focused, small-scale quantitative surveys are most useful. RAM can provide a quick sense of the decision-making processes employed in intrahousehold resource allocation. Reaching a more detailed understanding of such issues, as well as sociocultural reasons for them, will often require a more intensive ethnographic approach.

ADDITIONAL RECOMMENDATIONS

In those countries where NSOs have a history of not releasing data to outside analysts (both within and outside of the country), donors should seriously reconsider continued support to them.

Performance in Africa pertaining to full and efficient use of survey data is abysmal. This issue is not unique to surveys related to poverty analysis, nor is it entirely the fault of NSOs: there is plenty of blame to go around. Nevertheless, NSOs are the locus of most national surveys, financial and human resources are increasingly scarce for data collection activities, and it is legitimate for governments and donors to allocate funds to those NSOs most responsive to users.

Donors should make it clear that none of the reasons typically given for refusing to share data (concern for confidentiality, worries about misuse of data, and so forth) are good enough any more. If

P

governments are responsible for a chilling effect that limits the free flow of information for political reasons, this is as good a reason as any to cut back on data collection and analysis activities because chances are slim that such governments will use analysis to alter policies in a pro-poor fashion.

Incentives need to be strengthened for fuller documentation of databases and for undertaking analysis.

Financial incentives in NSOs and ministries that typically undertake survey work are strong at the data collection stage because this employs lots of people and provides supplemental income (per diems) for travel for fieldwork. Data processing also generates a fair amount of employment. The incentive structure breaks down beyond this, because data documentation and analysis are painstaking tasks, and remuneration is low relative to embarking on another survey. Sales of fully documented databases to interested researchers need to be encouraged. This would also generate urgently needed operating funds and defray some overhead expenses.

Concerted efforts are required to bring sectoral ministries and local universities into the analysis process.

NSO staff have little incentive to fully analyze the databases they generate — nor does it make sense for them to do so. The types of databases generated in large-scale, poverty-related surveys contain information on many different topics — agriculture, health, education, demography and population, labor markets, and gender — to name a few. In-depth analysis should be carried out by experts in these fields, with, to be sure, the active collaboration of the statisticians who generated the data and have the best appreciation for their limitations. Interested donors can initiate collaborative research and analysis programs with partnerships between local and foreign researchers from universities, think tanks, and consulting companies to ensure fuller use of data. In some countries, this will entail overcoming NSO resistance to sharing data, as well as perhaps providing technical assistance to ministries, universities, and local think tanks to ensure that research and analysis programs are adequately coordinated and sustained.

Donors need to be more conscious of the importance of local participation in all aspects of poverty monitoring and analysis.

Often research and analysis are donor-driven exercises with local participation limited to data collection and processing. This occurs for a number of reasons and is a general problem — not one unique to enquiry about the nature of poverty. Donors may feel they need information in a hurry for justifying projects and country programs they are hurriedly designing or evaluating and are thus unwilling to take time to collaborate meaningfully with local professionals. Addressing this problem is a fundamental issue because it implies that donors need to reexamine how they structure their programming and project cycles. Sometimes, private, university, or international research institute contractors refuse to share data with local counterparts because the contractors are more interested in publishing results under their names than in helping to build capacity through truly joint research. Host governments need to be more discriminating about the aid they accept and the international partners they work with in the implementation of research and policy analysis activities.

In countries where governments have demonstrated a willingness to confront poverty issues, donors should also sponsor annual national conferences where poverty analysis papers by local researchers are presented, and participants from a wide cross-section of society are invited. This is one strategy for stimulating demand for poverty analysis, thus providing impetus for fuller use of available databases.



Heightened interest in poverty monitoring and analysis raises several ethical issues that donors and governments need to be concerned about.

In those African countries where lots of field studies have been carried out, "respondent fatigue" is rife. African governments generally require their populations to participate in surveys, no matter how time-consuming, inconvenient, or intrusive a survey might be. Often, the same villages are repeatedly visited. In such a setting, the poor are especially vulnerable. Sitting and responding to lengthy questionnaires can result in lost income — something the poor can ill-afford.

Caution needs to be exercised with participatory approaches. If people expend time participating in such exercises and are quizzed about ways to make their lives better, this raises expectations. If participation brings no tangible rewards, this can lead to anger, frustration, and distrust. Ultimately, it may complicate future efforts at development. Such methods may be inappropriate for poverty monitoring and analysis because tangible benefits will be difficult to detect by survey participants. Also, while empowerment is a noble goal, there may be situations where local (inequitable) power structures are so entrenched that bringing them out into the open may do more harm than good.

CHAPTER ONE

INTRODUCTION

STUDY OBJECTIVES

The purpose of this study was to assess the relative strengths and weaknesses of selected survey methodologies in the monitoring and analysis of poverty in Sub-Saharan Africa. The initiative to undertake this study came from the Special Program of Assistance for Africa (SPA), which groups all major donors operating in Africa. Founded in 1988, the SPA's primary objective is to improve coordination of development activities of its members in the 27 African countries eligible for SPA assistance.¹ In 1993, a working group was established in Poverty and Social Policy and was given the mandate to work on the following five areas:

- Increase the quality and relevance of poverty assessments to adjustment lending;
- Enhance the poverty focus in the design and implementation of adjustment programs, in part by taking social as well as economic policies into consideration;
- Ensure that poverty alleviation is a major criterion in public expenditure reviews, and ensure that those reviews are more participatory in nature;
- Devise better and more appropriate ways to monitor and analyze the causes of poverty and the impacts of adjustment; and
- Increase understanding of the need for and uses of targeted programs in alleviating transitory and chronic poverty.

With regard to the fourth objective, which is the focus of this report, the working group stated in its initial June 1993 meeting:

Collection and analysis on a regular basis of adequate, gender and culture-specific information on the characteristics of the poor such as their income and expenditure patterns, their response to various incentives, the satisfaction of basic needs, changes in their welfare over time, and their behavior towards economic and political reform is essential.

For poverty monitoring systems to be effective, the methodologies used for collecting and analyzing poverty data must be appropriate within the context of severe resource constraints (both financial and human) that all African governments face. Such systems must also be demand-driven, reflecting to the extent possible the different types of information needs of those working in poverty reduction. All too often, a strictly supply-side approach is taken when it comes to data collection. This results in an excess of raw data, but a paucity of timely analysis and poor dissemination to those in a position to use information for better decision making.

¹ To be eligible, a country must be low income and debt-distressed, and engaged in structural adjustment.

Specific objectives of this report are to:

- Describe the principal types of poverty data that exist and their uses — both actual and potential — based on a multifaceted definition of poverty;
- Identify the principal quantitative and qualitative survey methodologies used for poverty monitoring and analysis in Sub-Saharan Africa, and their principal characteristics in terms of resource requirements and information typically generated;
- Identify the strengths and weaknesses of each of these approaches based on a standard set of technical and institutional criteria, including sampling and nonsampling error minimization; versatility; replicability and comparability over time; timeliness for obtaining usable results and analysis; intensity of human resource and skill requirements for data collection, processing, and analysis; cost-effectiveness; and evidence of local ownership (acceptability and perceived usefulness to host governments and other local institutions); and
- Outline a decision-making framework to aid African governments and other interested parties in determining what types of poverty monitoring systems and methodologies are most appropriate for their countries, based on their highest priority information needs and resource constraints (time, money, and trained staff), and with the perspective that these should be sustainable after withdrawal of donor support.

It is not an objective of this study to judge the appropriateness of different policy analysis techniques (such as different types of economic modeling approaches). Nor is it an objective of this report to pronounce on what policies, programs, and projects are of greatest benefit to the poor. However, choice of appropriate indicators are discussed as well as the criteria that govern the usefulness of analysis and monitoring information to decision makers.

The report is intended for two broad audiences. It will inform decision makers in African governments and development practitioners in the field on the array of poverty monitoring and analysis tools at their disposal, the relative merits of these tools, and the key aspects of effective national poverty monitoring systems. The report also targets donor agencies — several recommendations are presented on the types of data collection, analysis, and institutions they should be supporting.

The paper is organized as follows: the remainder of this chapter introduces briefly the range of quantitative and qualitative survey methodologies to be covered, and outlines the main schools of thought on what constitutes poverty. Typical poverty indicators are also described. Chapter Two provides an overview of typical uses and users of poverty-related data. Uses include research; policy analysis at the macro-level and in the productive and social sectors; poverty monitoring at the national and international level; project and program design, implementation, and evaluation; and policy advocacy. The chapter also takes a detailed look at famine and early warning systems because it is believed that those who engage in poverty monitoring can learn some lessons from the early warning experience.

Chapter Three describes the characteristics of the principal quantitative and qualitative methodologies under review. Chapter Four uses a set of technical and institutional criteria for assessing the strengths and weaknesses of each of the methodologies. These include sampling and nonsampling error minimization; versatility; replicability and comparability over time; timeliness for obtaining usable results and analysis; intensity of human resource and skill requirements for data collection, processing,

and analysis; cost-effectiveness; and evidence of local ownership (acceptability and perceived usefulness to host governments and other local institutions).

The final chapter describes an approach for determining or identifying information priorities and resource needs for the design of national poverty monitoring and analysis systems. It also presents a prototypical national poverty monitoring and analysis system. This prototype is not meant to serve as a blueprint for all national systems; rather its purpose is to identify what the key characteristics of such a system should be to ensure that approaches are practical, realistic, and reasonably flexible for responding to priority poverty monitoring and analysis needs.

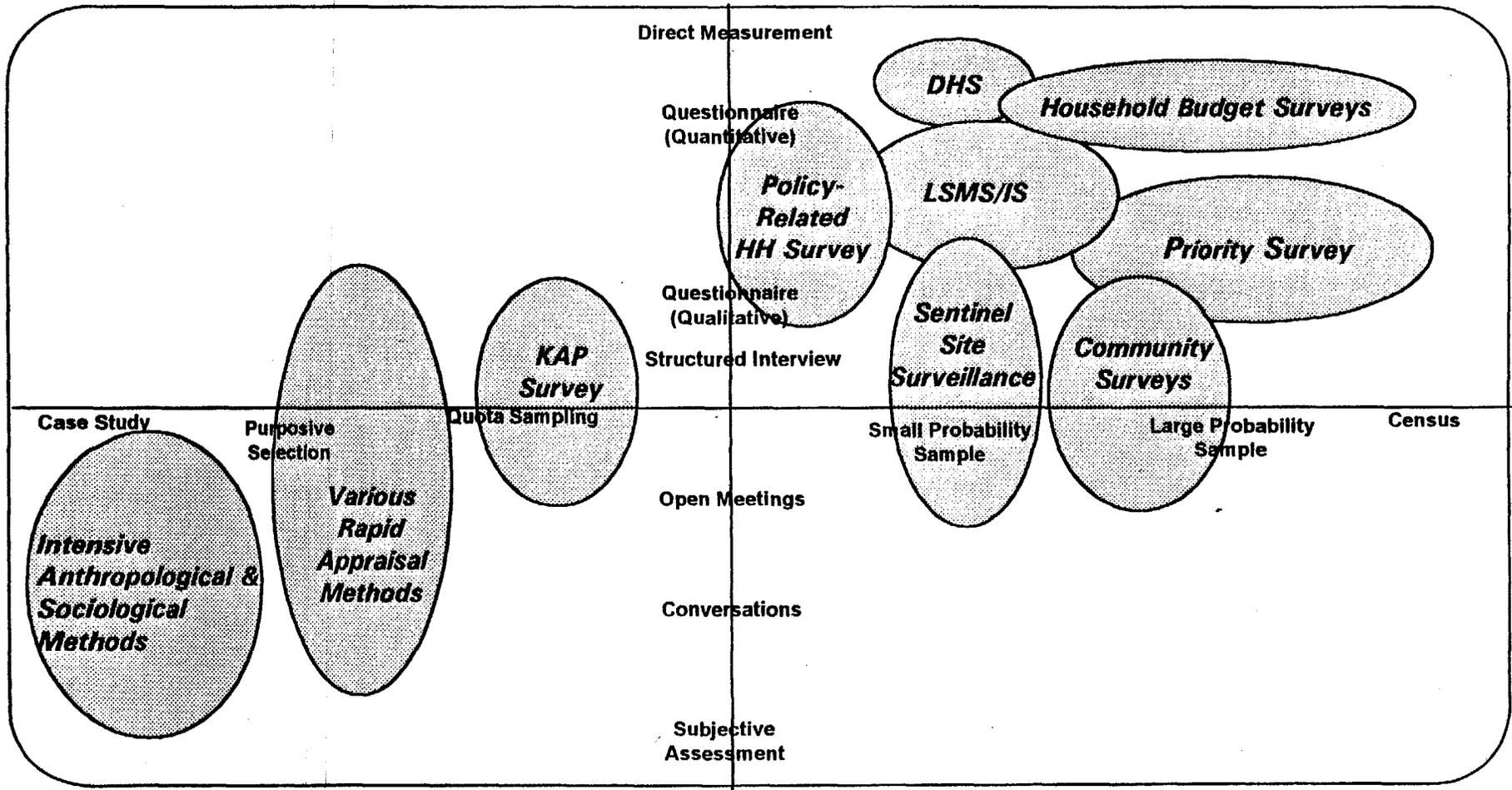
RANGE OF METHODOLOGIES TO BE EXAMINED

Survey methodologies used in developing countries are often categorized as either *quantitative* or *qualitative*. This dichotomy often serves as shorthand for the approaches used by economists and statisticians (quantitative) and those used by anthropologists, sociologists, and political scientists (qualitative). Such rigid either/or classifications generate more heat than light, and sometimes cause otherwise sane social scientists to lay claim to both technical and moral superiority. Figure 1 provides a more useful approach for classifying survey methodologies. The figure places survey methodologies on a continuum based on statistical representativeness and the subjective and direct measurement nature of the data the methods typically generate. Population censuses are on the extreme right of Figure 1 because they represent total enumeration — sample bias is not an issue because the sample is synonymous with the total population. At the other extreme are case studies with just a few observations. From a statistical point of view, one cannot reliably claim that these are representative of any larger population. Along the continuum are a variety of sample selection techniques that deal with larger and larger portions of the actual population and increasingly use probabilistic techniques in drawing their samples.

Direct measurement is at the top of Figure 1 while subjective assessment is at the bottom. Along the continuum are varying degrees of structured and less structured ways of eliciting information ranging from questionnaires, to structured interviews, to open meetings and unstructured conversations. It is somewhat misleading to equate *direct* measurement with *objective* measurement, because subjective phenomena often find their way into direct measurement. Calling this "objective" may give a false sense of security. A good example is crop cuts for measuring agricultural yields in farmers' fields. Research has shown that, even in reasonably well-administered surveys, data from crop cuts tend to produce upwardly biased estimates of actual yields and are fraught with numerous problems (Casley and Lury, 1981).

This report examines the pros and cons of the following probabilistic survey methodologies: the Living Standards Measurement Study (LSMS) survey developed by the World Bank; the World Bank Social Dimensions of Adjustment (SDA) package of Integrated (IS) and Priority (PS) surveys; the Demographic and Health Survey (DHS) sponsored by the U.S. Agency for International Development (USAID); and other types of quantitative surveys such as household income and expenditure surveys (that may be national or subnational in scope) and subnational policy-related surveys (such as those typically implemented by the International Food Policy Research Institute). These methodologies are all located in the northeast quadrant of Figure 1; they share two characteristics: probability sampling of the national population, and data gathering based primarily on questionnaires dominated by closed-ended questions. Several hybrid methodologies that use a combination of quantitative and qualitative techniques are also explored. These include sentinel site surveillance (SSS) and knowledge attitudes and practices (KAP) surveys.

Figure 1
Mapping Alternative Approaches For Poverty Monitoring and Analysis



Source: Adapted from Marchant (1994).

Regarding nonprobabilistic methodologies (what some might label qualitative), we assess various rapid appraisal methodologies (both participatory and non-participatory) and more traditional, intensive anthropological and sociological methods. Here again, the bipolar distinction of probabilistic and nonprobabilistic needs to be nuanced. Some of these methodologies may employ statistical sampling methods, but these are for distinct subsets of the national population.² Techniques such as quota and purposive sampling may attempt to come up with unbiased estimates but only for a subgroup of the population. They also tend to have smaller samples than survey types in the northeast quadrant of Figure 1.

Another distinction that needs to be made is that users of poverty-related data often take an eclectic approach regarding how they collect and analyze data. For example, the USAID-sponsored Famine and Early Warning System (FEWS) uses a variety of secondary data sources spanning the spectrum identified in Figure 1 to monitor and forecast drought and the status of food-insecure populations. Their data sources include national population censuses, agricultural surveys for forecasting production levels, household and community surveys, market price data, satellite imagery and aerial photography, rainfall data, and rapid assessment with various degrees of structure. Any monitoring unit, whether for poverty or famine prediction, will need to draw on a variety of sources to obtain as full a picture as possible of the complex and multidimensional nature of poverty.

WHAT IS POVERTY?

This simple question is one of the most contentious that exists in the development field. At a philosophical level, it involves making judgements about what forms of well-being matter most (income and assets versus other sources of well-being) and about whose perceptions of poverty matter most (those of the poor themselves, or those of outside technicians). Because economists' thinking is generally dominant in development agencies and governments, their definitions, measurement procedures, and analysis techniques have tended to dominate thinking on this question (Chambers, 1994).

Debate among economists has tended to center around whether wealth measures are sufficient for assessing the extent of poverty (largely at a theoretical level) and on whether relative or absolute measures of poverty are most appropriate (at the applied level). A standard economic definition of poverty is offered by Ravallion (1994) — poverty exists when one or more persons in a given society do not reach the minimum level of economic well-being set by that society. Based on such a definition, poverty measurement involves calculating income or consumption distribution within a society, setting a relative or absolute poverty line (more on this later), and placing people above or below it as an exclusive function of income or consumption.³

² To further muddy the picture, many household budget surveys and some priority surveys are not national in scope. Because of logistics, cost, informational objectives, and other reasons, numerous household budget surveys often deal only with urban or rural populations — but not both. Priority surveys in Chad (1991), Côte d'Ivoire (1992), and Angola (1993) enumerated only the capital cities, whereas the Kenya PS (1993) dealt only with rural areas.

³ In developed countries where salaried labor is the norm, income is most commonly measured. In less developed nations where salaried labor is the exception, consumption (as measured by expenditure) is most commonly used.

Sen (1987) has proposed another approach that is broader than commodity possession. He defines well-being as literally "being well," which is measured by living long, having enough to eat, being healthy, being educated, and so on. In other words, it is a person's ability to function. Poverty, therefore, is defined as lacking the ability to function. The analyst must determine the relevant abilities in a given society, and who lacks them.

Chambers (1994) goes further, challenging development practitioners, donor agencies, and governments to define poverty as the poor see it themselves. He posits that participatory approaches consistently uncover that local populations have a very different perspective on poverty and well-being than technicians and other outsiders. Tapping this perspective can aid in the design of policies and projects that respond more effectively to the needs and aspirations of the poor.

Closely related to poverty is the concept of vulnerability. Although poverty may be defined in terms of income that is too low to assure a minimally acceptable quality of life, vulnerability relates to variability in levels of income and control over assets and, consequently, variability in access to adequate food intake and other factors that lead to an acceptable quality of life (Riely, 1993). Chambers (1989) states that vulnerability "represents not lack or want, but defenselessness, insecurity and exposure to risks, shocks and stress . . . and difficulty in coping with them." The determinants of poverty (lack of education, low asset accumulation, limited access to natural resources, weak political voice, for example) may be considered as structural or chronic conditions that, when aggravated by external shocks (natural disaster, war, terms of trade deterioration, or policy change), increase vulnerability. In its most extreme form, such vulnerability results in famine and starvation.

In efforts to reduce vulnerability, the poor develop coping mechanisms for diversifying their incomes so as to not be overly dependent on any single source. As many observers readily attest, portfolio management strategies of African heads of household can put those of a Wall Street investment banker to shame. Reaching an operational understanding of these coping mechanisms and how the potentially vulnerable respond to external shocks is central to poverty analysis; tracking how they fluctuate is fundamental for meaningful poverty monitoring.

This paper adopts a broad approach to defining poverty. *Poverty is the state of deprivation of fundamental human needs.* Among these needs are access to sufficient food and water, adequate shelter, good health, long life, knowledge, and the capacity to provide materially for oneself and family through productive endeavor. The approach is multifaceted in nature, and the concept of vulnerability introduces a dynamic element as people may slip in and out of poverty as coping strategies are able or unable to respond adequately to shocks from the surrounding environment. Poverty is not simply a matter of lack of income — although income provides a starting point for measuring poverty's incidence and severity, and plays a major role in determining who has access to the things that lead to improved quality of life. Hence, both income and non-income measures are important for obtaining an understanding of poverty in a given country. In addition, it is posited that there is greater scope for the poor to provide more input in the development of cost-effective indicators of their well-being — in effect, setting the agenda on what should be measured in poverty monitoring exercises.

Income Measures

Income data have been collected for many years, long before any particular concern with poverty. All statistically based income measures of poverty require that income levels be measured of the population as a whole because it is only relative to the nonpoor that discussion of poverty has any meaning.

Real GDP per capita is the fundamental measure of average wealth of the inhabitants of a country. It is, however, subject to many weaknesses. It can conceal great geographic and class disparity within national populations, and it fails to count nontradeable goods and services and transactions in the informal sector, which can be considerable. Exchange rate anomalies, tariffs, and various taxes further distort this income indicator. Nevertheless, it is the starting point for determining whether current efforts at poverty reduction are sustainable on a national basis. The real GDP per capita growth rate should be adjusted for purchasing power parity of the currency. If this is not feasible, the nominal figure adjusted for inflation with the consumer price index (CPI) may be used. Nominal GDP figures and CPIs for use in deflating are generally available at national statistical offices (NSOs) (although their quality often leaves much to be desired) as well as in many other international statistical references. Calculating purchasing power parity involves analysis of trade data with major trading partners and may be calculated by national statistical offices, ministries of finance, central banks, the International Monetary Fund (IMF), or the World Bank.

Because labor is usually the only productive asset of the poor, the **unskilled wage rate**, adjusted for inflation, is the most direct indication of how the poor's purchasing power is evolving, although in Africa this indicator is more relevant for the urban poor than for the rural poor. The rural unskilled wage rate is defined as the weekly wage of casual farm labor without any land, or without enough land to meet subsistence needs. The urban wage rate is defined as weekly wages of a casual laborer without other income sources. In addition, because the propensity of the poor to consume is much higher than for the rich (who allocate a greater portion of income to savings), the short-run multiplier effect of a rise in real wages is higher for the poor than for the rich. However, caution should be used in attributing causality to changes in real wage levels because data are often notoriously unreliable, and changes are often a function of many simultaneously occurring factors such as labor market rigidities, exchange rate developments, and external shocks to the trade regime. It is recognized that the data necessary for reliable measurement of wage rate indices are currently unavailable in many African countries. Often, available data only cover the formal sector and may simply be a reporting of the official legal minimum wage. Where such data exist, sources include NSO publications, and employment studies and labor market surveys by the International Labor Organization, the World Bank, or other donor agencies.

Another measure, the **Gini Index**, computes the aggregate degree of inequality of income distribution in society. A Gini coefficient of 1.0 indicates perfect inequality of income distribution with a single member of society controlling all wealth, while a zero value implies perfect equality, with each member of society possessing a share of wealth equal to $1/N$, where "N" is the total number of people in the society. As economic growth (or decline) occurs, a key question that many policy makers want to be able to monitor is the extent to which the income distribution is becoming more or less equal.

Several other income measures can be used to disaggregate a country's population so that one can begin to discern the characteristics of specific subgroups based on their levels of income. The typical unit of observation is the household, with household income and expenditure surveys being the technique used for data collection and analysis.

One of the primary uses of income measures for purposes of poverty monitoring and analysis is in the identification of poverty lines, below which a minimum set of basic needs go unmet. There are two general classes of poverty lines — relative and absolute. **Relative poverty** refers to comparative measures of deprivation between households or individuals based on the distribution of income within the country. Analysts may calculate the relative poverty line in one of two ways, either by arbitrarily cutting off a preselected percentage of the population (say, the bottom 20 or 30 percent), and classifying them as poor, or by setting the poverty line at an equally arbitrary preselected fraction of mean expenditure. The former approach was employed for the Côte d'Ivoire LSMS (Grootaert, 1993), placing the poorest

30 percent of the population below a poverty line and the poorest 10 percent below an extreme poverty line. Boateng et al. (1990) used the latter approach for the Ghana LSMS, placing the poverty and extreme poverty lines at two-thirds and one-third of mean expenditure per capita, respectively.

Measures of **absolute poverty** define the level of expenditure necessary to purchase a bundle of goods that will allow households or individuals to attain a minimally acceptable level of basic human needs. The food intake method is perhaps the most commonly employed. This method sets a minimum daily nutritional intake (usually in calories) that may be a combination of purchased and home-grown food, and adds associated nonfood expenditure to come up with the poverty line. Although, at first glance, one might perceive this as clearly preferable to relative measures of poverty, culture-specific judgments and a variety of measurement problems about what constitutes a minimally acceptable food consumption basket and minimally acceptable nonfood expenditures introduce a great deal of subjectiveness (and hence arbitrariness) into these calculations (Ravallion, 1994). Absolute poverty lines have been calculated for Senegal, Zambia, and several other countries.

Once the choice has been made to calculate relative or absolute poverty lines, several different techniques can be used to gauge the magnitude of poverty. The **headcount index** is defined as the proportion of the population whose measured standard of living (often consumption) is less than the poverty line. This measure provides a useful indication of the breadth of poverty, but it does not provide information on either the depth or severity of poverty. In other words, the headcount index does not indicate how far below the poverty line the mean income of the poor falls (depth of poverty), or the distribution of individuals at different income levels below the poverty line (severity of poverty). Thus, the headcount index is inappropriate for some types of analysis, such as the impact of certain policies on the poor. Its main advantage is that it is easy to conceptualize and convey. Headcount indices have been computed for many Latin American and Caribbean countries (Psacharopoulos et al., 1993).

The **poverty gap index** is the difference between the poverty line and the mean income of the poor, expressed as a ratio of the poverty line. Although it gives a good indication of the depth of poverty, it is insensitive to the distribution of living standards among the poor, and thus does not measure poverty severity. The poverty gap index has been used to measure the depth of poverty in Bangladesh (Gillespie, 1990).

The **Foster-Greer-Thorbecke (FGT P₂) index**, a distributionally weighted poverty gap measure, captures poverty severity. Assuming that poverty increases the further income falls below the poverty line and assuming that society places a greater value on helping the poorest, the measure is weighted in accord with the extent that individual (or household) income falls below the poverty line. Those incomes falling furthest below the line receive the greatest weight, while those at or just below the line receive the least. The FGT index, therefore, is the summation of the percentage gap between the income of each poor individual and the poverty line raised to a power equal to or greater than 2, depending upon the degree of poverty aversion chosen by the researcher. Although a very useful tool in measuring poverty severity, the main drawback to using the FGT index is that it is relatively opaque and difficult to communicate. It has been used only recently, in poverty analysis in Latin America and the Caribbean (Psacharopoulos et al., 1993).

Some analysts advance the argument that a lot of wasted effort often goes into the attempt to pinpoint the boundaries of poverty. Given the inevitable lack of precision involved in the calculation of poverty lines, Ravallion (1994) posits that getting an approximate idea of ranges and magnitudes of poverty is good enough, and policy analysts should key more on assessing whether sets of policy alternatives result in directional change (does poverty rise or fall?), rather than coming up with precise estimates of how many people become poorer or better off as a result of different policy scenarios.

One can even go further and question whether setting poverty lines is worth the trouble because of how contentious the issue of labelling people "poor" or "nonpoor" often is, especially in cases where there may be no practical imperative for doing so. If analysis results are going to be used for means-testing for targeting beneficiaries of public assistance programs, then setting poverty lines cannot be avoided. For example, over the last 30 years in the United States, a great deal of work (and political controversy) has gone into refining poverty line measurement.⁴ But these poverty line measurements are directly related to setting income requirements for participation in an array of antipoverty programs, so there is an administrative imperative for investing in the measurement. Even if contentious political issues arise, there is no getting around them. However, if no such programs exist or are on the drawing board, why bother? One can ask whether focusing monitoring and analysis around poverty lines is wise in the African context, given that there are few means-tested programs that need them. In addition, poverty is culture-specific, and often those who measure poverty (Western-trained economists) are using techniques laden with the values of external cultures. For much monitoring and analysis, simply presenting socioeconomic characteristics by income (or expenditure) quintile or decile will communicate results just as effectively in a less value-laden fashion, thus largely avoiding the above complications.⁵

If it is decided in a given country that establishing cut-off lines for poverty is important, what is ultimately most important is establishing a rough political consensus on where the poverty line is located. If policy makers cannot agree on what does and does not constitute poverty, who is poor and who isn't, and what rough orders of the magnitude of poverty are, pinpoint precision is of little worth.

Non-income Measures

*Because poverty is multifaceted, it is of critical importance to also introduce non-income measures of poverty. After all, increasing incomes is not an end in itself; rather, it is a means to broaden access to an improved quality of life. Most analysts deem good health and education to be essential building blocks of a life free from poverty. Therefore, the indicators most often tracked to monitor poverty purport to measure some aspect of health and education. For health, indicators of survivorship, nutritional status, protection from disease, and access to health services are commonly reviewed. For education, indicators of educational access and achievement are monitored. Some indicators, for reasons given below, are better measures of poverty than others, yet data availability and reliability often limit indicator choice. Although a great number of social indicators are readily available in the main international statistical yearbooks, such as those put out by the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), and the World Bank, the data for African nations remain sparse and of questionable quality. In addition, it is extremely rare to find these broken down by region within countries, and without such a breakdown the data are of little practical use to national decision makers.

Good health, essential for human productivity, is achieved through proper nutrition, protection from disease, and access to health care. Each of these in turn, may be measured by certain indicators. For a broad overview of the health situation, analysts often monitor indicators of human survival, such

⁴ For a review of the evolution of poverty lines in the United States, their uses, and their political context, see Fisher (1992).

⁵ It would be misleading to say that one avoids this problem completely, because the analyst is still using monetized income (or expenditure) as the basis for comparison and this implies major value judgements about what is desirable in society. Yet at least this sidesteps most of the practical problems arising from "poverty labeling."

as *child mortality*, *infant mortality*, and *life expectancy* rates. Child mortality rates are the best overall indicator of health conditions, because they are sensitive to short-term changes in living standards (unlike life expectancy) and insensitive to some cultural practices (unlike infant mortality). The data on all three indicators contain much that is unreliable, however, because actual observations are often lost among extrapolations and interpolations. Nutrition is often measured by *food production per capita*, *calorie availability/intake per capita*, and *child malnutrition*. Food production and calorie availability/intake are inferior to child malnutrition because the former are *inputs*, while the latter is an *output* and a direct measure of nutritional status. *Disease infection rates*, as an output, are the most direct measure of disease vulnerability, but because data are rarely available, *access to clean water* and *immunization coverage* are good indicators of disease protection. Access to health care is measured by such indicators as *access to health facilities*, *population per physician*, and *maternal mortality* (a measure of women's access). *Unattended births*, another commonly used indicator, is the main cause of maternal mortality.

Education is another essential component of human welfare. Typically, poverty analysts are concerned with measures of educational access and achievement. Indicators of educational access include *gross and net enrollment ratios*, disaggregated by primary/secondary, male/female, and rural/urban status. Net enrollment ratios, when available, are better than gross enrollment ratios because they exclude overage students and repeaters. *Adult literacy rates*, *examination scores*, *repetition rates*, and *completion rates* are commonly used indicators of educational achievement. Literacy rates are the most readily available among these. Male/female and urban/rural disparities in all of these indicators measure education equity.

For all social indicators (as well as most income-related ones), level of geographic and socioeconomic disaggregation is a major issue: gender disaggregation is especially important. Although nationwide aggregate figures are commonly reported by international development agencies, they are of little practical use to policy makers and planners within individual countries. In general, the greater the level of possible disaggregation the better. However, this has implications for sample size and thus for the resulting costs and complexity of mounting surveys and conducting analysis. These issues will be discussed in greater detail in Chapter Four.

An alternative approach to identify indicators is to take into account more fully what local populations consider to be important elements of well-being and coping strategies. When the poor themselves are brought into this process, this can lead to development of measurable indicators. For example, common coping strategies typically mentioned are cutting back on the number of meals eaten per day, withdrawing children from school, increasing visits to traditional healers (versus the local clinic or hospital) when sick, and selling seasonal labor during peak agricultural periods (despite the negative consequences this might have on one's own fields). Although work is just beginning in this area, local populations themselves can provide valuable (and ultimately more meaningful) input in identification of appropriate indicators with local, regional, and even national relevance. Although these perceptions are central to how local populations perceive their own well-being and poverty status, they rarely surface as concerns in quantitative surveys in which, in most cases, the outsider defines what is important and what is peripheral.

WHAT ARE THE ROOT CAUSES OF PERSISTENT AFRICAN POVERTY?

Africa is among the poorest regions of the world, and the number of poor is increasing rapidly. The number of persons with less than \$1 of income per day increased by two-thirds between 1970 and 1985 and is expected to increase from 180 million in 1985 (47 percent of the population) to 265 million

by the year 2000. If current trends continue, the African poor, constituting 16 percent of the world's destitute in 1985, will make up 30 percent of the total by the year 2000 (Lele and Adu-Nyako, 1991). The recent devastation of Rwanda and Somalia only contribute further to the popular perception that the continent is beyond repair.

It is difficult to disentangle the discussion of how to measure poverty from the extensive debate about what causes poverty. In Sub-Saharan Africa, the debate has historically been cast around an array of issues including, but not limited to:

- Legacies of colonialism such as political balkanization and dysfunctional power structures (in other words, center-periphery relationships between former colonial powers and pseudo-independent countries and local elites);
- Persistence in following inappropriate development models based on an emphasis on capital-intensive, industrial sector investment at the expense of labor-intensive agricultural-led growth;
- Overemphasis on public sector interventions in economic activities more efficiently performed by the private sector;
- Failure to recognize the informal sector as a legitimate engine of economic growth;
- Over-reliance on projects, donors, and foreign assistance, which has resulted in too many poorly conceived and supervised projects, bloated recurrent costs, and inconsistent development strategies as governments depend more on outsiders than their own citizens to make crucial public policy and investment decisions;
- Neglect of subsistence food crops through lack of research and extension of appropriate production and processing technologies;
- Unfavorable trends in the terms of trade as many African agricultural and mineral exports decline in price at the same time that import costs rise; and
- Lack of concern with environmental degradation as population growth combined with expansion of areas cleared for agriculture and fuelwood gathering imperil sustainable development.

In recent years, much of the debate about the causes of poverty has revolved around the effects of structural adjustment on the poor.⁶

Unfortunately, the arguments of many people related to the causes of African poverty tend to be driven more by ideology than thoughtful examination of actual African experience. It is beyond the scope of this paper to review extensively the debate on the causes of poverty. However, for the purposes of this report, there is a need to acknowledge that analysts' ingrained ideological beliefs about the causes of poverty and, consequently, the relative merits of different economic, social, and political policies and types of investments for alleviating it play a big role in the choice of survey methodology, questionnaire content, and analysis techniques.

⁶ This discussion on the causes of poverty borrows heavily from Sherk et al. (1992).

CHAPTER TWO

TYPICAL USES OF POVERTY DATA

OVERVIEW OF POTENTIAL USES OF POVERTY DATA

There are many different potential uses (and users) of poverty-related data. These include research; policy analysis; poverty monitoring; famine early warning systems; project design, implementation, and evaluation; and policy advocacy. Although the variety of potential uses and groups of users of poverty-related data present potential opportunities for joint ventures in data collection and analysis, coordination among users is often problematic. This is due partly to the fact that different categories of users bring different criteria to the table for judging the usefulness of data, methodologies for collecting them, and analysis techniques.

TABLE 1

IMPORTANCE OF DIFFERENT CRITERIA BY USE OF POVERTY DATA

	Data Richness	Statistical Reliability	Timeliness	Ease of Communication	Cost-Effectiveness	Regional Specificity	Local Ownership
Research	●	●	○	○	○	○	○
Policy Analysis	●	●	●	●	●	○	?
Poverty Monitoring	○	○	●	⊖	●	●	?
Early Warning	○	○	●	●	●	●	?
Project Design	?	○	●	●	●	●	?
Policy Advocacy	○	○	●	●	?	○	●

- = More important
- = Less important
- ? = Unclear or varies on a case-by-case basis
- ⊖ = Moderate

Table 1 ranks several basic criteria that researchers, policy analysts, and others consider important (to varying degrees) in judging which survey methodologies to employ. Relative importance also varies on a case-by-case basis. These criteria include the richness of data (for drawing out potentially complex causal relationships), statistical reliability, timeliness of data generation and analysis output, ease of communication, cost-effectiveness, regional specificity, and local ownership.

Obviously, the table is a simplification in many ways. For example, the distinction between research and policy analysis is not always a clear one, and there are many different types of policy analysis and research. For example, policy analysis may be of either a short- or longer-term nature. It may be commissioned by governments or donors to meet immediate information needs or be of a more reflective nature, and potentially useful well into the future. This latter category of policy analysis overlaps considerably, and may be indistinguishable from research.⁷ Nevertheless, it is important to point out the tension that often exists when complex, data-intensive survey efforts are mounted between those wanting to do publishable research and those more interested in practical and timely applied analysis of relevance to decision making. Chambers (1985) captures this conflict succinctly in the following passage:

Among outsiders there is a difference between what practitioners want and what academics can or will provide. One part of this is a choice of topic and emphasis. What a practitioner thinks 'useful' an academic may not find 'interesting.' Both are right in their own ways. A practitioner has a responsibility for results; an academic for understanding. Bridging the gap, research commissioned by practitioners can exercise a healthy discipline on academics, concentrating their minds and efforts. At the same time, it is difficult to understate the value of concerned independent observation and analysis . . . There is a danger that universities and research institutions may become too much the handmaids of government, doing only what they are told or commissioned to do. [p. 48]

As most frequently practiced, richness of data and statistical reliability are important to most researchers, while issues of timeliness, ease of communication, a feeling of local ownership of data and findings are considerably less so.⁸ As we shall see, several of the methodologies examined in this report (in particular, LSMS, and initial SDA program activities related to developing new methodologies) have been condemned as being too "research-oriented" and of little practical value to those who need results quickly and in a digestible form.

Another distinction for which there are no clear boundaries is between analysis and monitoring. For purposes of this report, "analysis" is defined as empirically based work that seeks to understand causes of poverty, including relationships between key variables that explain why some people are poor while others are better off. "Monitoring" tracks the evolution of poverty status (based on both income and non-income indicators) without necessarily pursuing a detailed understanding about why change occurs, or how causal variables interact to affect change.

⁷ For a useful classification of types of economic and social science research, see Johnson (1986). He identifies three types of research: disciplinary, subject matter, and problem-solving. Disciplinary (or basic) research is certainly not policy analysis, and often has no readily identifiable practical applications. Subject matter research entails improving and refining techniques and procedures for conducting analysis — but with an eye to real-world applications in the not-too-distant future. Initial development of LSMS and SDA methodologies could be labelled as subject-matter research. Problem-solving research seeks to provide information for immediate needs such as policy and project design, implementation, and evaluation/monitoring.

⁸ NSO technical staff in many African countries can recount bad experiences with visiting expatriate researchers who take NSO data home with them, analyze them, publish results in professional journals, and fail to acknowledge properly the data sources or the considerable assistance they may have obtained from the NSOs. Such bad experiences, while the exception rather than the rule, may sour NSOs from releasing data in the future to other, better-intentioned, researchers.

As Table 1 shows, the priorities of those working in poverty monitoring and early warning systems are nearly identical. Quick turnaround, ease of communication, cost-effectiveness, and regional specificity are important. Having precise estimates of key parameters and detailed knowledge of causal relationships is less important. Effective poverty monitoring and early warning units practice the principal of "optimal ignorance" — seeking solid information about the most critical factors affecting poverty and vulnerability and no more; system overloads are avoided. As we shall see later in this chapter, one reason for the complementarity between the needs of poverty monitoring and early warning systems is that those who are poor and those who are subject to vulnerability from food shortfalls tend to be the same people. The difference between poverty and vulnerability to food insecurity is slight.

Priorities for project design are also somewhat similar to those of poverty monitoring in that the accent needs to be on timely and region-specific generation of information. Because there are many different types of projects in terms of activities, scale, regional coverage, and technical expertise requirements, data richness requirements vary widely.

In the past, policy dialogue was largely an affair between donors and government officials. However, providing data for policy advocacy has taken on increased importance in recent years because of the wave of democratization that has swept through many African countries. Even in those countries still dominated by one-party systems, the press and opposition groups are freer than ever before to voice their opinions and take part in policy debate. In some instances, they may also be more open to using information provided by researchers and analysts than governments unreceptive to change or with a strong tendency to cover up problems rather than seek solutions. For these groups, timeliness, ease of communication, and local ownership are of critical importance.

* One note of explanation regarding the criterion of local ownership. Question marks appear in most cells because, though it is always claimed as an objective of policy analysts, project design teams, and others, in practice local ownership is often not important to those generating and manipulating data in Sub-Saharan Africa.⁹ This may be because of the pressure to get projects designed and approved by donor agency deadlines, overly complicated government and donor administrative procedures that unintentionally impede participation by those who have not yet mastered the bureaucratic system, the lack of qualified and available local counterparts to work on project and policy design, the indifference or outright hostility of some African governments to improving the situation of the poor that forces donors to either give up or go it alone, or arrogance and paternalism common to some outside "experts."

POVERTY MONITORING

There is no straightforward commonly accepted definition of what poverty monitoring actually is. As mentioned in Chapter One, the institutions working in Sub-Saharan Africa have different

⁹ Within the last two years, the World Bank and the African Development Bank released reports highly critical of their internal procedures related to the project development and implementation cycle (known respectively as the Wappenhans (1992) and Knox (1994) reports. Among the criticisms was that procedures and internal organization cultures and incentive systems worked against efforts at building a sense of local ownership (with borrowing governments, targeted populations, or both). Although these criticisms are widely acknowledged as accurate by those inside and outside the two banks, it remains unclear whether any serious and concrete changes will be introduced to facilitate, rather than impede, an increased sense of local ownership of projects, programs, and policies.

perspectives on what causes poverty and therefore on what types of data should be collected and indicators tracked to monitor its evolution. Moreover, Although there is a lot of talk about poverty monitoring, only a handful of poverty monitoring units have been established at the national level in Africa and their track record is short.

Poverty Monitoring at the International Level

Poverty monitoring may occur at the international, national, and subnational levels. Donor organizations such as the U.N. agencies and the World Bank have been collecting and publishing cross-country data on poverty-related social indicators for many years. Table 2 provides an overview of major publications and the social indicators they typically report on. All of these reports are published annually. The World Bank publishes the *World Development Report*, *African Development Indicators*, and *Social Indicators of Development* and *World Tables*. UNDP and UNICEF prepare the *Human Development Report* and *The State of the World's Children*, respectively.

Table 2 may give the appearance that data generation related to social indicators in Sub-Saharan Africa is adequate. Yet it is critically important to point out that few of the figures reported are derived from primary data collection exercises. Most are either extrapolations from a survey in the distant past, or, more commonly, simply pulled from the air with no clear explanation of how they were arrived at. Most of the remaining discussion in this section needs to be viewed in light of this.

In the *Human Development Report*, UNDP has attempted to rank country performance related to quality of life with a Human Development Index (HDI). In 1994, 173 countries were ranked using the HDI. Box 1 provides an explanation of the evolution of the HDI since its initial appearance in 1990. The HDI has many strengths as an indicator of poverty. One of the strengths is that it measures socioeconomic achievement more directly than does an exclusively-income-based indicator. Though it is true that countries with higher incomes will probably have higher life expectancies, lower infant and child mortality rates, and higher educational achievement, it is not a strict correlation. Income variation explains only about half of variation in life expectancy and infant and child mortality rates, and even less of the differences in literacy rates. Another strength of the HDI is that, by using purchasing power parity, it begins to grapple with the complicated issue of cross-country comparisons. In addition, the HDI ranking publicizes which countries are failing to improve basic quality of life indicators. Though not technically beyond reproach, this may encourage a renewed commitment to improving these indicators.

The HDI also has several potential limitations. As a result of year-to-year refinement in the basic components of the HDI, meaningful comparisons over time are not possible. To address this problem, the 1994 HDI fixes "normative" values for life expectancy, adult literacy, mean years of schooling, and income. These minimums and maximums are not the recorded values in the best- or worst-performing countries today but the most extreme values recorded or expected in the long run (around 60 years). Another potential weakness of the HDI is that the rankings may not always be credible. For example, the 1994 HDI ranks countries like Zaire and Liberia, where all civil order is gone, ahead of Nepal and Malawi, countries with admittedly suboptimal indicators but societies that are essentially functional. This may be because so much of the underlying data is missing, outdated, or not analyzed for different population groups — for men and women, for urban and rural, for rich and poor, or for different races or ethnic groups.

The HDI has also been attacked for adding up indicators that should be dealt with separately — in essence, adding up and comparing "apples and oranges." The HDI can perhaps be reproached for lack of technical rigor, but UNDP should be commended for attempting to grapple with the daunting issue of

TABLE 2

SOCIAL INDICATOR DATA AVAILABILITY FOR AFRICA

	<i>World Development Report</i>	<i>African Development Indicators</i>	<i>Social Indicators of Development</i>	<i>World Tables</i>	<i>State of the World's Children</i>	<i>Human Development Report</i>
Life Expectancy	●	●	●	●	●	●
Infant Mortality	●	●	●	●	●	●
Child Mortality	●	●	●		●	●
Total Fertility	●	●	●	●	●	●
Food Production	●	●	●	●		●
Calorie Availability/ Intake		●			●	●
Child Malnutrition	●	●	●		●	●
Access to Clean Water		●	●		●	●
Vaccination Coverage		●	●		●	●
Access to Health		●	●		●	●
Population per Physician	●	●	●			●
Maternal Mortality	●	●	●		●	●
Gross Primary Enrollment	●	●	●	●	●	●
Net Primary Enrollment	●				●	●
Adult Literacy	●	●	●		●	●

BOX 1

THE HUMAN DEVELOPMENT INDEX

In 1990, the UNDP *Human Development Report* introduced a new way of measuring human development through calculation of a Human Development Index. The HDI offers an alternative to GNP for measuring the relative socioeconomic progress of different countries. The HDI is a composite of three basic components of human development: longevity, knowledge, and standard of living. Longevity is measured by life expectancy. Knowledge is measured by a combination of adult literacy (two-thirds weight) and mean years of schooling (one-third weight). Standard of living is measured by purchasing power, based on real GDP per capita adjusted for the local cost of living (purchasing power parity). Each indicator is measured in different units but, to combine these indicators, the range of values for each one is put on a scale of 0 to 1, where 0 is the minimum and 1 is the maximum. In 1990, a single HDI was used for each country, but from 1991 to 1993 the HDI has been progressively disaggregated by gender, income group, geographic region, and race or ethnic group for countries with adequate data.

putting together cross-country comparisons of income and non-income measures of quality of life in a digestible manner. Also, from a political perspective, using the unique vantage point of the United Nations to publicize who is doing well and who is doing poorly is also commendable.¹⁰

A new UNICEF publication (begun in 1993), *The Progress of Nations*, takes a wide variety of country indicators on child health, nutrition, education, family planning, and status of women and identifies the top and bottom 10 or 12 nations for many of these individual indicators. This publication is meant more for popular consumption and to publicize who is doing well and poorly in an effort to get governments to work harder on improving social service performance.

Viable, comprehensive, and commonly accepted strategies for performing cross-country comparisons of the evolution of African poverty have eluded the international donor agencies for some time. Table 3 lists the most commonly used income and non-income measures of quality of life, their relevance as measures of poverty, and their strengths and weaknesses for assessing the evolution of poverty. Income measures such as population percentages below the poverty line remain problematic because of the extreme difficulty of obtaining credible and regular estimates of poverty incidence (not to mention the conceptual problems related to identification of where the poverty line lies discussed in Chapter One). Although indicators of GDP per capita are readily available, they have the obvious drawback of inability to gauge poverty; GDP per capital is only a measure of overall economic growth and reveals nothing about income growth for lower-income groups.

¹⁰ In a recent African poverty status report prepared by the World Bank for the September 1994 meeting of the SPA's Poverty and Social Policy Working Group, a number of income and nonincome indicators were plotted for selected countries on a single "web-like" diagram for both urban and rural areas. This provides a powerful and quick visual display of the complexity of poverty indicators, as well as of urban/rural disparities. It has the additional benefit of not adding up apples and oranges but rather considering them separately, which is more justifiable conceptually.

TABLE 3
POVERTY MEASURES AND INDICATORS

POVERTY MEASURES	INDICATORS	POVERTY RELEVANCE
INCOME		
Income per Person	GDP per capita	Basic measure of the average wealth of a nation's people
	Unskilled wage rates (especially urban)	Most direct measure of the evolution of the poor's purchasing power
Breadth and Distribution of Poverty	Various relative and absolute measures of the poverty line	Measures proportion of the population whose expenditure levels are below the poverty line, either relative to expenditure levels of other members of society, or for achieving a minimally acceptable standard of living (measured in terms of nutritional intake or other proxy)
	The Gini Index	Computes the aggregate degree of inequality of income distribution in society. A coefficient of 1.0 indicates perfect inequality of income distribution, whereas a zero value implies perfect equality
HEALTH STATUS		
Survival	Child mortality rate	Viewed by many as the most complete overall indicator of child health status. Sensitive to changes in the well-being of the poor
	Total fertility rate	An inverse relationship exists between total fertility and women's and children's health, education, and income
Nutrition	Calorie availability & intake	Sensitive to changes in calorie availability for the poor, because the nonpoor are thought to consistently receive adequate calories
	Child malnutrition	Trends in prevalence of underweight children track nutritional status of the poor. Wasting indicates short-term nutritional inadequacy; stunting indicates chronic deprivation
Protection From Disease & Access to Health Care	Access to clean water	Inaccessibility to safe water is highly correlated with incidence of water-borne diseases
	Child vaccination coverage	Sensitive to short-term changes in health care availability, because a new cohort of infants must be immunized each year
	Maternal mortality rate	Measures poor women's access to basic health services. Caused principally by unattended childbirth
EDUCATION STATUS		
Educational Access	Net primary enrollment ratio	Sensitive to changes in well-being of the poor, because marginal changes reflect enrollment status of the poor. Female education correlated with family size, family health status, higher productivity, and higher income
Educational Achievement	Adult literacy rate	Correlated with potential for responding to income earning opportunities. Female literacy is also correlated with family size, health, and nutrition

As data for calculating national poverty line estimates have become more available through the SDA-sponsored priority and integrated surveys, the Human Resources Division of the World Bank's Africa Technical Department has begun to report on continent-wide poverty using a cutoff point of \$1 per day per capita (World Bank, 1994). Figures have been calculated for 14 countries and the number of countries and data points will grow over the next few years as more and more countries complete initial and follow-on SDA surveys. The \$1-per-day poverty line is arbitrary, chosen because it eases cross-country calculations — not because it carries substantive meaning. Although figures are adjusted to reflect purchasing power parity, choosing \$1 a day versus \$2 or some other amount is arbitrary — a convenient yardstick for making comparisons — but not one that conveys any meaning in and of itself. In contrast, cross-country measures of access to schooling or vaccination coverage do convey some useful comparative information. One major advantage of the SDA approach is that all figures generated are based on primary data collection through household surveys and considerable effort has been made to document estimation techniques and procedures.

Continued tracking of key health and education indicators may be the only practical way of making cross-country comparisons (or Africa-wide aggregate assessments) of the evolution of poverty (or more accurately, quality of life). However, problems of data reliability and timeliness also exist for these indicators — but not to as great an extent as for income-related indicators.

Poverty Monitoring at the National Level

Any initiatives to undertake national poverty monitoring must take the institutional and political environments into account. In the vast majority of Sub-Saharan African countries, formidable constraints exist to mounting effective systems for monitoring poverty. Some of these are general problems related to mounting any data collection and analysis effort; others are additional complications having to do with poverty itself.

The most important constraint to establishing effective poverty monitoring systems is the weak institutional capabilities of many African national statistical offices (NSOs) to implement surveys and sustain them, independent of donor resources. A closely related problem is the lack of adequate local capacity to fully analyze survey data for policy and program-planning purposes. Even in those countries where substantial local capacity exists — in ministries, universities, or consulting firms — adequate incentives to do analysis are usually lacking. Finally, even if survey implementation runs smoothly and analysis is completed in a timely fashion and is policy-relevant, decision makers may lack the political commitment to transform policy analysis into concrete policy change.

Box 2 describes the decline of Kenya's NSO in recent years. It should be pointed out that the situation is far worse in most other African countries. Although capacity has eroded, the Kenyan Central Bureau of Statistics remains capable of carrying out high-quality surveys when donor funding is provided. However, the corollary to this is that donor "hi-jacking" of NSOs should be a concern; a series of ad hoc and often disjointed pressures from an array of donors make it hard to ensure that basic statistics are collected and that overall survey implementation, data processing, and analysis capability are maintained. A final problem is that some NSOs are extremely hesitant to share raw data with interested analysts. Why this occurs and its implications for effective analysis will be discussed more fully in Chapter Four.

Most African governments readily acknowledge that statistical institutions are in a state of crisis. However, as is often the case in other areas (investment in agriculture, infrastructure, and social services), African governments primarily look to donors to solve these problems rather than seeking solutions themselves.

BOX 2

THE INSTITUTIONAL CRISIS OF STATISTICS IN AFRICA: AN EXAMPLE FROM KENYA

Any plans to monitor poverty and social welfare in Africa must confront the reality that NSOs in most countries are in serious crisis. Once among the first rank of African NSOs, the Kenyan Central Bureau of Statistics (CBS) has fallen on hard times since the early 1980s.

During the 1970s, largely with United Nations funding, CBS activities flourished and staff expanded. The number of regular monthly, quarterly, semiannual, and annual publications in government finance, national economics, agriculture, employment, prices, demography and other areas totaled 23 during this period. A significant number of large-scale surveys were also mounted.

However, things began to change in the 1980s. CBS staff tripled while the number of publications and their quality declined. Resources spent on surveys rose substantially, but most data generated were not published or analyzed. By 1992, the number of regular publications had shrunk to two and CBS had also been widely criticized for not publishing results of the 1989 National Census until April 1994.

A number of factors have eroded the effectiveness of the CBS. These include official wariness about disseminating information because of the political crisis in Kenya; an out-dated institutional and legal structure not revisited since the 1960s; inability to attract and retain qualified personnel; staff increases disproportionate with infrastructure investment; lack of autonomy from its overseeing ministry, which means it has little control over personnel recruitment or staff development; overdependence on donor funding and resultant donor hi-jacking of the CBS agenda; and problems of collaboration with users of statistics.

On this last point, the Statistics Act of 1961 forbids release of raw data to protect the confidentiality of respondents. Although this could easily be remedied by deleting names of respondents and their addresses from datafiles, access to raw data for local researchers is extremely limited because of a complex system for obtaining research permits. Nor can CBS charge fees for data processing services such as preparing tables upon request. This situation has led to suboptimal use of CBS databases, despite the presence of many qualified researchers in Kenyan universities, government agencies, and other local institutes.

Sources: Government of Kenya (1993 and 1972), and personal interviews, September 1994.

Establishment of effective national poverty monitoring systems faces additional hurdles because of complications related to the nature of poverty itself and the emotions that discussion of poverty often arouse. Indeed, some might posit that lack of demand is the single most important constraint to establishing national poverty monitoring systems: if the demand were there, the rest of the problems might largely take care of themselves. On a political level, many African governments lack commitment to assisting the poor and may be extremely sensitive to publicizing the plight of the poor for fear that opposition groups will use such information to attack and weaken them. Because poverty is synonymous with lack of political voice (by no means a problem unique to Africa), and the poor are dispersed primarily in rural areas, the needs of the nonpoor who are concentrated in urban areas usually receive highest priority. Partly because of these political economy problems, most poverty monitoring initiatives remain donor-driven. Among donors, there is also considerable debate about what causes poverty and what to do about it. Related to this, the decision to fund or not fund poverty monitoring and analysis activities tends to be linked to the ideological baggage of the structural adjustment debate. Donor

consensus is lacking on whether poverty-specific interventions are needed and on how these interventions should be shaped.

Because poverty is a multidimensional phenomenon, interventions are required across sectors. However, interministerial (or intersectoral) coordination is weak and it is not always apparent which government ministry should take on the overall coordinating role, and how coordination can be achieved.¹¹

Problems of a more technical nature also exist. Training in gender analysis is just beginning. Because women and children are especially vulnerable to poverty and women are the backbone of much of the agricultural and informal economies, considering their special needs and problems is of fundamental importance. Data that could be used for gender-disaggregated analysis are not lacking (the majority of household datasets enumerate all household members and can be used for such analysis); rather it is the analysis that is lacking. For qualitative analysis, unless specific strategies are identified to elicit responses from women, the views of men will tend to dominate in interviews because they are the primary traditional interlocutors with those outside the community.

Finally, the extreme poor may also be under-represented; those with experience conducting censuses acknowledge that there is usually a downward bias in counting the extreme poor because many of them are hard to find. Examples are recent urban migrants, squatters with no fixed residence, distant and inaccessible rural areas, and pastoralists who move with their herds and frequently cross national borders. Finally, even when analysis is good, practical and administratively feasible solutions for targeting the poor may be lacking.

An important question always facing those embarking on data collection and analysis activities in Africa is whether quick generation of reliable data and solid analytical outputs, or capacity building, will receive higher priority. Although the two are not necessarily mutually exclusive, failure to adequately come to terms with the issue of capacity building can greatly complicate subsequent activities.¹² Grosh and Glewwe (1993) identify some guidelines for deciding to what extent capacity building should be stressed in household survey programs:

- When institutions are already well developed, there may be little need for further institutional development;
- When staff turnover is high, or qualifications of existing personnel low, training may have little effect. In the absence of civil service reform, training may only result in a brain drain;
- When speed in survey implementation is the top priority, the slow and arduous task of capacity building may be put on the back-burner;

¹¹ In the 1970s, proponents of the integrated rural development (IRD) approach realized this. However, inability to effectively coordinate activities across sectors and clearly define project and program goals caused IRD to fall out of favor in most donor agencies by the early 1980s.

¹² For a discussion of how failure to resolve this issue plagued implementation of the SDA program, see SDA Steering Committee (1993).

- Related to this, if a very-high-quality product is required the first time around, capacity building may receive less priority because the risk of error is high if survey implementation is also used as a training device; and
- When surveys are to take place only once, or will not be repeated again for several years, capacity building may not be useful, because the skills obtained may be forgotten or, if turnover is high, trainees may move on to other jobs.

Additional issues concern the extent to which local ownership of survey findings is deemed important. If it is foreseen that results will be fed into policy dialogue, building local capacity to implement surveys and perform analysis may be extremely important. Analysis done by outsiders and then presented to governments as a *fait accompli* is rarely received as well as analysis done by local analysts and then fully vetted within government and civil society.

Because policy debate and discussion of poverty-related issues has widened beyond governments and donors to include opposition parties, the press, lobbying groups, and NGOs, one should also consider the level of priority to attach to building the capacity of these groups to generate and use survey results to get their voices heard. This question becomes even more important in countries where governments are uncommitted to achieving a better understanding of the problems and potential solutions to poverty and, as a result, technical documents typically die a quiet death within the bureaucracy (Kenya), where governments have lost their legitimacy in the eyes of large segments of the population (Zaire), or where — on the positive side — government has shown itself willing to engage in dialogue with other groups in society (Zambia).

EARLY WARNING SYSTEMS

Many Sub-Saharan African countries have early warning systems (EWS) for predicting short-term crop failure and increases in food insecurity among socioeconomic groups at highest risk of malnutrition and starvation. The most important donors supporting EWS activities are the Food and Agriculture Organization (FAO), USAID, and the European Union. Although approaches to data collection, analysis, and reporting differ, the primary objective of EWS is to track increased vulnerability as the result of declines in food availability and access to food (in other words, the purchasing power necessary to acquire food).

There are at least two reasons why, in the context of this study, it is important to examine EWS. First, although poverty and vulnerability to famine are not the same thing, it was pointed out in Chapter One that they are closely linked through coping strategies employed by the most vulnerable groups in the population. Second, although donors and governments have been talking about setting up national poverty monitoring systems for several years, only a few systems exist. In contrast, EWS is quite widespread in Africa and has a reasonably long track record in several countries. Hence, it may be possible to draw some lessons from EWS experience of relevance to poverty monitoring.

Categories of EWS

There are roughly five classes of EWS, differing in approaches to vulnerability assessment, procedures for data collection and reporting, level of coverage (national or subnational), and the nature of relations with African governments. Table 4 identifies country coverage for each category of EWS.

TABLE 4

SUB-SAHARAN AFRICAN EARLY WARNING SYSTEM COVERAGE

Category of EWS	Countries Covered
FEWS	<u>Sahel</u> : Burkina Faso, Chad, Ethiopia, Mali, Mauritania, Niger, Sudan, <u>Eastern and Southern Africa</u> : Kenya, Malawi, Zambia, Zimbabwe
SAP	Chad, Mali
GIEWS	All Sub-Saharan African countries
Subregional EWS	<u>SADC</u> : Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia, Zimbabwe; <u>AGRHYMET</u> : Burkina Faso, Chad, Gambia, Mali, Mauritania, Niger, Senegal
Homegrown	Botswana, Ethiopia

Famine and Early Warning System (FEWS). Initiated in the mid-1980s by USAID, FEWS currently operates in 11 countries and relies on a variety of secondary data sources to project potential food import needs. FEWS analysis are key inputs into PL 480 food aid programming. Institutional linkages vary from country to country — ranging from units within line ministries, to NGO affiliations, to placement within USAID field missions.

Système d'Alerte Précoce (SAP). Funded by the European Union, SAPs are established in two countries — Chad and Mali. A variation of Sentinel Site Surveillance is used to monitor changes in food availability, malnutrition, and other aspects of vulnerability in drought-prone areas. High rainfall areas are generally not covered. Inter-ministerial committees coordinate the work of the SAPs, and this information is combined with that of FEWS so that government and donors can calculate food aid requirements.

Global Information and Early Warning System (GIEWS). FAO taps into the extensive UN network to provide data for all Sub-Saharan African countries on aggregate food crop production, forecasts of shortfalls, and import requirements. Results are reported on a quarterly basis.¹³ The principal focus of GIEWS is on the national level; calculations on food import gaps are used by the World Food Programme (WFP) for their food aid programming.

Subregional EWS. The Southern African Development Conference (SADC) Food Security Unit and AGRHYMET of CILSS are subregional organs that centralize early warning data from countries within their geographic domain — Southern Africa and the Sahel. The SADC unit depends on national EWS for information, while AGRHYMET itself collects and analyzes meteorological data that are then fed back to national EWS.

Homegrown EWS. The Botswana Interministerial Drought Committee and the Ethiopia Relief and Rehabilitation Commission (RRC) are the two best-established EWS; they depend on regular

¹³ The FAO publishes these results in its quarterly bulletin, *Food Supply Situation and Crop Prospects in Sub-Saharan Africa: Special Report*.

reporting from district civil servants. The Botswana program is directly linked to a food for work scheme for providing employment relief to vulnerable populations. Donors incorporate production shortfall estimates into their food aid calculations.

Criteria for Indicators of Vulnerability

Downing (1991) has identified criteria for choice of indicators of vulnerability for EWS. As one can readily see, there is substantial overlap in choice of indicators for vulnerability assessment and for shorter-term aspects of poverty monitoring. According to Downing, indicators need to be:

- *Comprehensive*: spanning the range of vulnerable groups and famine processes;
- *Measurable*: quantified relationships or discrete qualitative data may establish thresholds for further action. Data quality and scale of error must be documented;
- *Timely*: leading indicators must provide time for intervention;
- *Reliable*: series of indicators must accurately portray a variety of famine processes and should converge;
- *Redundant*: indicators may overlap and be used to reinforce interpretation of each other;
- *Cost-effective*: only simple and cheap monitoring systems have practical value;
- *Consistent*: measurements over time need to be able to capture seasonal trends and departures from a base period;
- *Easy to interpret*: speed of analysis is critical; perceptions and information requirements of decision-makers must be considered; how data are presented is important;
- *Trigger specific interventions*: lead time and type of indicator may assist in the targeting of vulnerable populations; and
- *Replicable in diverse situations*: some universality, within and across vulnerable groups, is desirable.

Areas of Mutual Benefit

Clearly all these indicators for EWS are desirable for regular poverty monitoring. There is great potential for poverty monitoring and EWS to each benefit from the experience and lessons learned generated by the other and to share data. There are many specific areas where mutual benefits are possible.

Identification of Household Typologies

Both EWS and those who implement poverty-related household surveys have given a great deal of thought to household typologies. EWS typologies must be appropriate for targeting specific populations in a cost-effective and administratively appropriate manner. Poverty analysts sometimes forget that the household classifications they pick may have little value for targeting specific interventions because it is not feasible to determine on the ground who falls into these classifications and who does not. At the same time, analysis of household survey data can assist in the verification and refinement of household typologies and these can serve to increase the credibility of EWS analysis and recommendations for targeted interventions.

Identification and Tracking of Cost-effective Indicators

EWS indicators must be cost-effective, timely, and easy to communicate. The same should be true for poverty indicators. At the same time, analysis from household surveys can greatly assist in refining indicators and improving their usefulness. One example is the simple terms of trade indices that FEWS and SAP construct in several Sahelian countries and report on at regular intervals (Box 3). Incorporation of household survey data on revenue and expenditure patterns could increase the utility of these measures for EWS because weights could be added, a greater array of products could be introduced into the indices, and geographical disparities could be more accurately mapped. In addition, greater appreciation of the characteristics of net food sellers and purchasers could be scoped out. Obviously, fluctuations in staple food prices have different effects on the welfare of households depending on their net seller/purchaser status.

BOX 3

COST-EFFECTIVE EARLY WARNING INDICATORS: AN EXAMPLE FROM CHAD

Monitoring changes in relative price behavior offers significant insight into the differential impact of food insecurity across groups within society (pastoralists versus wage laborers, for example). This information can be used to target interventions to the specific needs of particular groups of people . . . [In Chad] SAP data provide coincident price series for cereals (millet) and livestock (goat or sheep) for monitoring changes in pastoralist purchasing power. FEWS presents the price for one hundred kilograms of cereal, the animal price and the price ratio to identify the source of relative price changes. For example, the long-term declining trend in sheep prices (1989 to present) has resulted in significantly lower pastoralist purchasing power. Recent recovery in purchasing power is attributed more to declining cereals prices than a sustained recovery in the market for sheep.

Quote from May, 1992, p. 9.

Filling in Gaps

EWS has typically done a poor job of monitoring urban vulnerability and evolution of coping strategies, because of limited resources and the concentration of poverty in rural areas. However, with increased rural migration to peri-urban areas and policy changes such as food subsidy reductions, obtaining a better understanding of urban poverty must take on increased importance. Poverty monitoring

in the form of low-cost household surveys and rapid appraisal in poor urban areas can assist EWS technicians in improving their analyses. Because of logistics, it is far easier and cheaper to mount an urban survey than a rural one. In addition, data are generally more reliable because major complications arising from measuring agricultural activity are absent (estimating production, home consumption, revenues, livestock assets, and so on). Undertaking such surveys is a more appropriate task for a poverty monitoring unit than an EWS because NSOs are better equipped to mount them.

Institutional Fora

In countries with EWS, there is typically an interministerial and multidonor committee that receives, reviews, and acts upon EWS findings and recommendations. The committee may also play a major role in coordinating food policy. The most highly regarded committees are well known. In establishing poverty monitoring units, it is important that a ready audience exists. Where such fora exist, it is logical that they receive poverty monitoring analysis for review and dissemination. If such committees already have a proven track record, they will stimulate demand for timely poverty analysis and keep the pressure on for such analysis to be both timely and relevant.

CHAPTER THREE

MAJOR METHODOLOGIES FOR COLLECTING POVERTY DATA

As discussed in Chapter One, categorization of survey methodologies using a simple quantitative-qualitative dichotomy can be misleading. This chapter is organized to roughly reflect the continuum identified in Figure 1. At the same time, the methodologies are grouped in quantitative and qualitative sections because development practitioners commonly distinguish them in that way. We begin with a discussion of LSMS, followed by the SDA Integrated and Priority Surveys. Although the Priority Survey actually appears "first" (the farthest to the right on the continuum because of its distinguishing feature of a relatively large sample size), we start with LSMS because it is the historical antecedent of the SDA methodologies. We also begin with these because LSMS methodologies are the most commonly associated with poverty monitoring in Sub-Saharan Africa as a result of the intellectual dominance of the World Bank in this area. Other classes of household surveys are then presented, followed by DHS. The survey methodologies cited above are those that are most commonly referred to as *quantitative*. On the *qualitative* side, Rapid Rural Appraisal or RRA (including participatory approaches), Beneficiary Assessment (BA), and other participatory methods are then examined. Finally, two hybrid approaches — Sentinel Site Surveillance and Knowledge, Attitudes, and Practices surveys — are discussed.

QUANTITATIVE APPROACHES

Living Standards Measurement Study

LSMS was developed and introduced by the World Bank in 1980 to collect improved and high-quality data that would permit the detailed study of household behavior, and that would not only measure living standards but also provide information necessary for the analysis of the causes and consequences of poverty. To date, LSMS surveys, which started out with a research orientation covering Africa and Latin America and the Caribbean, have been implemented in 12 countries worldwide, some more successfully than others.¹⁴ Many of the latter surveys, which have increasingly veered towards a policy analysis orientation, differ significantly from the prototype (the 1985 Côte d'Ivoire and Peru surveys), and also vary a good deal from country to country because each survey is customized to make it relevant to a given country's institutional framework, capability, and analytical needs.

LSMS is a complex, multitopic, and integrated survey designed to collect comprehensive data on all major aspects of household and community well-being. Although the data are used in a variety of sectoral and economic analyses, the LSMS mandate centers around measuring and monitoring welfare, income distribution, and poverty. Accordingly, LSMS uses a set of three questionnaires (household, community, and price) to evaluate the impacts of past and proposed developmental policies on the living standards of the people concerned.

The household questionnaire, typically the largest and most time-consuming of the three, is used to obtain comprehensive individual and household information on income (all formal and informal

¹⁴ Côte d'Ivoire, Peru, Ghana, Mauritania, Bolivia, Jamaica, Morocco, Pakistan, Tanzania, Viet Nam, Nicaragua, and Guyana. Field work is scheduled for Ecuador and Nepal in 1994.

primary as well as secondary sources), consumption (durable and nondurable goods), and quality of life (welfare). This survey can be executed independently, or separately, where suitable, through modules (each dealing with different topics) added to existing household surveys to complement information already available. In instances where there is inadequate information or no prior information available, this questionnaire is implemented independently, in which case the survey covers a broad range of topics. Box 4 provides an indication of the breadth of data collected with the LSMS household questionnaire.

The community questionnaire is typically designed to gather information on a rural community's access to and the condition of local infrastructure (for example, utilities, roads, or labor markets) and basic public services like education and health facilities. Increasingly, this survey is being used for urban communities as well. Community questionnaires are usually administered to community leaders and groups knowledgeable on what is and is not available to the village or locale.

The price questionnaire, conducted to measure the purchasing power of households, is used to collect market prices of principal outputs, inputs, and the most commonly purchased household consumption bundle. Given that market prices vary considerably according to time, location, and quality in developing countries, it is updated regularly to reflect accurate price data. Ideally, prices faced by those households surveyed are collected in nearby markets at the same time that the households are being enumerated.

Because the questionnaires are designed to be comprehensive, the sample is kept relatively small or of medium size (ranging from 1,600 to 3,200 households, rarely more than 5,000 households) for the sake of manageability in field supervision and to keep logistical support costs low.

Once the questionnaires are adapted to address local policy and operational needs, the survey is subjected to a thorough field test. During the field test, all three questionnaires are administered to enough households to ensure that the questionnaires are capable of collecting the intended information. During this exercise, the survey implementation procedure is also tested.

Implementations of LSMS surveys have displayed a high degree of flexibility, exhibiting the surveys' facility in addressing disparate needs of countries under diverse circumstances. In some countries (Jamaica and Indonesia), where a series of LSMS rounds have been conducted, a "core and rotating system" of modules has been used. Under such a system, a core set of modules (usually consumption and a few others judged important for longitudinal tracking) are always retained, while specialized modules are added and dropped from one round to the next, based on government information priorities at the time. This substantially lightens the data collection and processing load while maintaining the capacity to respond to diverse information needs.

Despite the great variability in LSMS surveys carried out thus far, a common thread runs through them all. The set of characteristics unique to LSMS surveys includes comprehensive content, high-quality data, quick turnaround period between fieldwork and data entry and processing, and small sample size (relative to other types of nationally representative household surveys).

The prototypical LSMS implementation procedure involves administering the household questionnaire to each household in two interview rounds with a break of two weeks between the end of the first round (consisting of the first eight modules) and the second round (consisting of the last eight modules). The first round (which takes a week) focuses on individual household members while the second round is answered by household members in charge of specific activities. The community and price questionnaires, on the other hand, are administered only once in the locale in which the households are interviewed. The two-week break between the first and second rounds offers time and opportunity

BOX 4

A PROTOTYPE LSMS HOUSEHOLD QUESTIONNAIRE

The LSMS household survey contains modules (sections) to collect household data. The household head or a designated principal respondent responds to questions on general household information, while those questions requiring individual input are answered by each household member. For the modules on specific activities, the household member responsible for that activity is interviewed. The household questionnaire is conducted in two interviews two weeks apart. Module (section) 0-8, and 16A are conducted in the first interview, and the rest of the questionnaire is conducted in the second interview. The content of each module is described below:

Section 0 SURVEY INFORMATION

- 0A Household Head and Respondent Information
- 0B Summary of Survey Results
- 0C Observations and Comments

Section 1 HOUSEHOLD MEMBERSHIP

- 1A Household Roster
- 1B Information on Parents of Household Members
- 1C Children Residing Elsewhere

Section 2 HOUSING

- 2A Type of Dwelling
- 2B Housing Expenses

Section 3 SCHOOLING

- 3A Attendance
- 3B Expenses

Section 4 HEALTH

All household members are asked to respond to questions regarding utilization of health services and medical expenditures for an illness in the last four weeks; utilization and expenditures for preventive services within the last 12 months.

Section 5 ECONOMIC ACTIVITIES

- 5A Time Use and Job Search
- 5B Main Job During the Past Seven Days
- 5C Secondary Job During the Past Seven Days
- 5D Search for Additional Employment
- 5E Main Job During the Past 12 months
- 5F Employment History
- 5G Secondary Job During the Past 12 months
- 5H Other Activities

Section 6 MIGRATION

Location and reasons for first and last moves.

Section 7 RESPONDENTS CHOSEN FOR ROUND TWO (the second interview)

The principal respondent is asked to identify the best informed persons to respond to sections in round two; and a female respondent is selected to respond to the fertility section.

Section 8 CHARACTERISTICS OF HOUSING

Observations and measurement of housing is noted by the interviewer.

Section 9 AGRO-PASTORAL ACTIVITIES

- 9A Land
- 9B Crops
- 9C Age of Tree Crops
- 9D Farm Inputs
- 9E Sales of Food Products Made from Homegrown Crops

BOX 4 – Continued

	9H Extension Contacts for Livestock
	9I Livestock Expenditures
	9J Hand Tools
	9K Farming Equipment
Section 10	NONFARM SELF-EMPLOYMENT
	10A Working Conditions
	10B Expenditures
	10C Revenues
	10D Business Assets
Section 11	NONFOOD EXPENDITURES & INVENTORY OF DURABLE GOODS
	11A Daily Expenses
	11B Annual Expenses
	11C Inventory of Durable Goods
	11D Expenses for Remittances
Section 12	FOOD EXPENSES AND HOME PRODUCTION
	12A Food Expenses
	12B Consumption of Home Production
Section 13	FERTILITY
	13A Fertility History
	13B Family Planning
Section 14	OTHER INCOME
	14A Income from Remittances
	14B Miscellaneous Income
Section 15	CREDIT AND SAVING
	15A Money and Goods Lent and Borrowed
	15B Loans Contracted
	15C Savings
Section 16	ANTHROPOMETRIC
	16A Round One: Data collected on all household members' sex, height & weight. If female, pregnancy or breast-feeding status noted by anthropometrist.
	16B Round Two: To allow for remeasurement for deviations.
 Source: Grosh and Glewwe, 1993.	

to check for internal consistency and make the necessary corrections to resolve most inconsistencies and inaccuracies in the field. In full-fledged LSMS surveys, fieldwork extends over a full year.

Furthermore, to ensure that data are of the highest quality possible, and that the results are produced on a timely basis, data collection is subjected to intensive, thorough quality controls and frequent reviews.¹⁵ The interviews are evaluated in action by supervisors from both the field and

¹⁵ However, it should be pointed out that some analysts view these procedures as overly complicated. Grootaert (1993) compares the calculations of three different analysts for estimating household expenditure per capita for different regions of the country using Côte d'Ivoire LSMS data from 1985. The laborious nature of constructing household accounts with the Côte d'Ivoire LSMS led to highly divergent results and considerable delays in obtaining results (3 years before analysis that used data from all rounds of the Côte d'Ivoire LSMS).

national offices, while the data is checked for inconsistencies, directly in the field, through the use of PC-based computer programs designed to identify errors and inconsistencies.

The data quality feature of LSMS surveys is further accentuated by the format of the questionnaire. To minimize interviewer error and save time in data collection, the questionnaires are written exactly as they are to be asked, and screening questions are used extensively so that the skip pattern is automatic requiring almost no decision making by the interviewer.¹⁶ Moreover, all potential responses are precoded, allowing the response codes to be entered directly into the computer from the completed questionnaire, and making response time and data processing dramatically short and error-free.

The core work of the survey is performed by a five-to-six person team typically made up of a supervisor, two interviewers, an anthropometrist, a data entry operator, and a driver. The team is based in a regional office equipped with a personal computer for data entry. The data entry operator works only at the field office, while the other members travel between the field site and the office. In countries where the institutional capacity is available, teams are supervised and supported by the institution, usually a national statistical office.

The above describes the typical LSMS survey. Yet, since the first four LSMS surveys, there have been substantial variations in the content of the newer LSMS surveys. In addition to the language required to adapt the survey to a country, eight other differences exist. The following highlights briefly the major differences:

- The Jamaican, Bolivian, Guyanese, and Nicaraguan surveys have no agricultural or small enterprise modules, and at best limited migration and fertility modules;
- Within each module, the details vary widely. For example, all health modules cover the use and costs of health care, but some seek aggregate data on health care visits in the last month. The degree of detail collected on the agricultural modules varies also. The consumption and labor participation modules also vary widely;
- The direct welfare outcomes measures included in the surveys differ. Some countries have all members measured, while in others only children get measured. Peru and Bolivia did not include anthropometric data in their surveys. One round of the Jamaica survey on the other hand included Activities of Daily Living as a measure of health status. The test, age group tested, and location of test administration all differ substantially;
- The LSMS survey varies substantially in the price and community questionnaires as well. In the first four surveys, a short price questionnaire was administered in each sampling area, and a community questionnaire was administered in rural areas. The Jamaican and Peruvian surveys had neither, and more recent surveys have both questionnaires. In addition, some incorporate special school questionnaires, like the ones administered in Ghana and Jamaica;
- LSMS surveys can also be linked to other surveys. Rather than repeat information collection, the LSMS data sets are merged with those from other surveys to get full coverage of

¹⁶ It should, however, be noted that LSMS skipping rules have been criticized as too complicated for enumerators, causing them to spend a lot of time flipping back and forth between pages during interviews, and resulting in errors in filling in questionnaires.

modules. For example, the Jamaica survey revisits a subsample of the households from the Labor Force Survey;

- The sample size also varies substantially. The median is 4,200 households, but the Tanzanian survey included only 800 households, while the Bolivia sample is 10,000 households;
- The organization of the fieldwork differs substantially. Several of the more recent surveys have reverted to more traditional methods of fieldwork organization with large teams fielded in short periods and data entry done after, and separately from the fieldwork; and
- Length and frequency of the surveys differ as well. Some surveys are one-shot, while others are done twice, first before and then after a project's implementation, and some are ongoing annually.

LSMS surveys are also increasingly emphasizing local capacity building in data collection and analysis. In the past, institutional capacity building received lower priority because it is a slow process, and the question of how much emphasis capacity building should receive had not been easy to determine, especially in light of the competing emphasis on speed and the desire for a one-time, high-quality product.

When institutional capacity building is included as part of the survey effort, costs of implementation become much higher. In instances where a well-developed survey capability exists, survey implementation requires a relatively small amount of staff time and is not costly. The resource requirements to implement a LSMS survey are contingent on such factors as sample size, the policy need to be addressed, whether the survey is independent or partial, and local costs. The World Bank estimates indicate that LSMS surveys can cost anywhere from \$155,000 to \$1,000,000 depending, again, on various factors mentioned earlier (World Bank, 1992).

Although LSMS surveys have successfully produced rich and high-quality data for policy making, some drawbacks exist as well. Some limitations of LSMS surveys are that while the small sample size facilitates a short turnaround time, it can also limit the ability to provide precise estimates for small subgroups of the population; when the full survey is conducted, data collection itself can take up to a full year; the survey can take anywhere from two or three years from the first decision to carry out the survey to produce the final and complete results; and, if a full-fledged survey is taken every three to four years, as is the tendency now, the institutional capacity built with the first survey may atrophy with time.

The Social Dimensions of Adjustment Survey Methodologies

With the support of several other multilateral and bilateral donors, the World Bank launched the Social Dimensions of Adjustment project in 1987 to provide accurate and timely information for measuring, analyzing, and monitoring the socioeconomic effects of structural adjustment policies on different household groups, particularly in Africa. The regional SDA project ended in 1992 but national activities continue in many countries. The project was also concerned with strengthening institutional capacity of African governments to plan, administer, and analyze surveys on a permanent basis. As of July 1994, 26 African countries had either completed or were in the process of implementing surveys using SDA-developed methodologies (World Bank, September 1994).

The SDA approach, like the LSMS, uses complex, multitopic, integrated surveys to respond to short-term needs as well as plans for longer-term institutional development and its sustainability. Substantial work went into developing the SDA conceptual framework, which stresses the links and

feedback mechanisms between the macro, meso, and micro levels.¹⁷ Three survey instruments have been developed for poverty monitoring and analysis. The two prototype household surveys are the ambitious, in-depth *Integrated Survey* and the more frequently administered (annual), large-sample *Priority Survey*. The third survey is the *Community Survey*.¹⁸ All three instruments can be implemented independently, even though they were originally developed to be implemented as a set of interlinked surveys one or more times in any given four-year survey program.

Integrated Survey

The IS has objectives and content similar to the LSMS — attempting to provide data for explaining why and how households at the microlevel respond to stimuli from the macroeconomic and sectoral environment. The IS is specifically designed to analyze impacts resulting from structural adjustment policies. Unlike early LSMS, this survey has an operational orientation, has less complex questionnaire skipping rules and data processing procedures, and focuses only on Africa. Because institution building figures prominently in the SDA approach, data generated through IS are processed and analyzed in the country. Furthermore, IS is part of a much bigger and more comprehensive package than LSMS. Since the IS survey focuses on collecting detailed data on a wide range of variables, and the Priority Survey is more oriented to fewer questions and increased sample size, the two surveys were designed to be complementary and to be used together in a package. The package also includes a community survey. Even though an analytical framework underpins both programs, the framework for SDA appears to be more rigorous and comprehensive than that of LSMS.¹⁹ SDA proponents also posit that IS questionnaires and data cleaning procedures are less complicated than for LSMS (for example, skip and fill rules).

Community Survey

The community survey collects information on the availability and quality of key public services and facilities in the economy. This survey usually provides information on price data as well. Like the LSMS surveys, it is supposed to be carried out at the same time that the integrated survey is administered. The community survey may be implemented independently, but when combined in a package with the IS and PS, the community survey provides information on the link between the effects of macroeconomic policies on the meso level (for example, utilities, education, infrastructure, and market prices) and the impacts on the micro level (households).

¹⁷ "Macro" refers to macroeconomic policies including monetary, fiscal, and exchange rate policies, while "micro" has to do with individual and household behavior and welfare. "Meso" comprises markets and infrastructure, elements through which macro policies translate into impacts on individuals and households. For a detailed presentation of this framework and its applications to the analysis of the effects of structural adjustment on poverty, see World Bank (1990).

¹⁸ Manuals exist for each of these.

¹⁹ The downside of this is that the SDA program was criticized for devoting too much time to preparing this framework, at the expense of other, presumably more urgent and practical tasks (SDA Steering Committee, 1993).

Priority Survey

The PS is a relatively simple and short household survey designed for rapid data collection of priority information to assess quickly the impact of adjustment on target groups most at risk like the poor and other similar vulnerable groups. The PS is intended to be light (having a limited number of key indicators and questions) but large (average 300-500 households for each of the 10-20 subgroups), as it must ensure that the sample is representative of the population. Households are only visited once. PS data are less detailed than those of the IS, and so information on important variables like household income and expenditures and other intrahousehold dynamics are limited. Because it is administered over a short period of time (two to three months), it cannot capture the effects of seasonality. Consequently, caution needs to be exercised in picking a time of year for fieldwork that is not too abnormal relative to the rest of the year.

Box 5 summarizes the main components of the prototype PS questionnaire. Because the PS is not designed to provide a complete picture of the households, proxies that reflect macroeconomic changes are used for direct welfare measurements. Given the "brevity" of the survey, PS can be easily repeated on a regular basis. The World Bank currently recommends that the PS be conducted annually to meet data needs for urgent and quick policy actions. When repeated annually, the PS serves as a monitoring instrument to measure changes in key socioeconomic and welfare indicators for policy target groups over time. The PS data is collected on a single visit usually from a single household-head or its designate and can be completed in less than an hour. The Bank also recommends that once every four years or so, a new IS be implemented for more detailed information and to reassess the effects of seasonality that a one-shot survey is incapable of addressing.

In theory, a key feature of the PS is the swift production of results, usually within 9-12 months from survey preparation to generation of initial analysis outputs.²⁰ Unlike IS and LSMS, fieldwork for PS lasts about 2-3 months covering an average of 8,000 households. Data quality is assured through a repeated consistency checks to minimize both sampling and non-sampling error. In practice, the coverage of a large sample size, in a limited time frame is possible only in small countries such as Guinea and Gambia. In countries with large population, large geographic spread, and limited internal institutional capacity — which is true of most African countries — the time constraints imposed on PS seem near to impossible.

Integrated Survey

For Priority Surveys to be useful and effective, they should be combined in a package with an Integrated Survey. When implemented in a package, a PS is generally administered first to get "feet wet" and obtain a rapid, cross-sectional assessment from a relatively large sample of household. The IS and CS would then be taken in the second year to provide in-depth and detailed analysis. In countries without sufficient institutional capacity to administer and analyze surveys or in those that cannot afford an IS, the

²⁰ In practice, an initial PS appears to take as much time to mount as other national survey instruments. It is the subsequent PS rounds that have more rapid turnaround.

BOX 5

MAJOR ELEMENTS OF THE PRIORITY SURVEY HOUSEHOLD QUESTIONNAIRE

1. **Household Roster** (list of all de jure household members):
 - Demography: relation to head of household, age, sex
 - Education: literacy, current attendance, educational achievement
 - Health: recent health consultation and related expenses
 - Employment: main activity status, job search
2. **Employment**
 - Main job, work status, industry, wage
 - Second Job
 - Previous occupation
3. **Housing and Facilities**
 - Occupancy status and change
 - Access to water and fuel, and change in access
 - Access to food market, schools, health facilities, and transportation
4. **Migration**
 - Recent migration of household
 - Work-related migration of household members
5. **Agricultural enterprises** (including livestock and fisheries)
 - Main livestock and change in stock
 - Operation of land
 - For 5 main crops: production, sales, outlets, change in production
 - Use of fertilizer, credit, extension services
6. **Non-farm enterprises** (up to 3 per household)
 - Type, duration of operation
 - Person responsible
 - Number of employees and changes
7. **Household expenditures**
 - Expenditures and direction of change for five key foods and selected categories of nonfood items. **NOTE: The PS+ attempts to fully enumerate all expenditure categories.**
8. **Income by source**
 - Income and direction of change of major sources of income. **NOTE: The PS+ attempts to fully enumerate all revenue categories.**
9. **Assets**
 - Ownership and changes in ownership of major productive assets and consumer durables.
10. **Anthropometric**
 - Weight and height of children 3-59 months of age.

Source: Grootaert et al., 1991.

World Bank originally recommended that a PS, accompanied by a CS, be administered on a yearly basis to monitor changes and maintain a regular database.

Originally the PS questionnaire did not include the full array of revenue and expenditure items. However, this was seen as a serious drawback for a variety of reasons, and most PSs are now designed to fully enumerate the consumption basket and get a full listing of revenue sources. This new version is called the PS+.

If the full package — IS, PS, and CS with hardware, software, vehicles, training, and international consultants — is carried out over the recommended four-year survey period, the total cost

can be as much as \$4.5 million. A scaled-down package containing a.1 IS and four PSs over three years with the investments in equipment has been estimated by the World Bank at \$1.3 million. When institutional capacity building costs are excluded, the cost of a PS ranges from \$35-\$50 per household.

Demographic and Health Surveys

The Demographic and Health Survey Project began in 1984 and is designed to generate data and analysis on critical health parameters and assist governments and private agencies in developing countries (Africa, Southeast Asia, Latin America, and the Caribbean) to conduct national sample surveys on fertility and maternal and child health. Variables of interest include socioeconomic characteristics such as education, occupation, knowledge, and attitude to and practice of family planning methods. No income and expenditure data are collected. Funded primarily by USAID, DHS is currently administered by a private consulting firm, Macro International in Maryland.

Primary objectives of DHS are to promote widespread dissemination and use of DHS data among policy makers, expand the international population and health database, advance survey methodology related to health and demographic issues, and develop in participating countries the skills and resources necessary to conduct high-quality demographic and health surveys.

The first phase of the project ran from 1984 to 1989 and dealt primarily with methodology development, training, and data collection and processing. Twelve countries of Sub-Saharan Africa participated at this stage: Botswana, Burundi, Ghana, Kenya, Liberia, Malawi, Nigeria, Senegal, Sudan, Togo, Uganda, and Zimbabwe. During Phase II (1988-93), the project emphasized analysis and information dissemination. Specific country reports were written, and a series of comparative cross-country studies were undertaken. Nine new African countries were added to the project at that time: Burkina Faso, Cameroon, Madagascar, Malawi, Namibia, Niger, Rwanda, Tanzania, and Zambia.

The third phase of DHS (1993-98) has included two new participating countries, the Central African Republic and Côte d'Ivoire, and will focus on in-depth analyses and the second round of surveys in 7 of the 12 countries that participated in Phase I.

DHS country and sample monitors work with host institutions that implement the survey. These institutions usually are the central statistics office, the Ministry of Health and social Affairs, the Ministry of the Interior, the Ministry of Planning, or the university.

Demographic and health surveys are national in scope and are based on probability sampling (random selection). Main respondents are women of child-bearing age. Once a country has agreed to a DHS, a sampling monitor is sent to the field to evaluate the existing sample frame. Census mapping, resulting from the list of enumeration areas (EAs) in the countries, are used as sample frames. They are evaluated and updated, depending on the date the census took place. When a national census is more than 4-5 five years old, or when census EAs are judged unsatisfactory, the sampling monitor constructs special frames from a patchwork of pre-existing frames, such as updating the lists of administrative units.

DHS is a two-stage sample survey. The primary sampling units (PSUs) are selected from a area frame. The area frame is stratified by type of area (urban or rural) and location (geographic or administrative). Within each stratum, the area units are usually ordered according to location, thus providing implicit stratification. A household listing operation follows in the selected PSUs, and then the required number of households is selected from the household frame. Once the household listing operation is completed, households are selected randomly.

Two types of questionnaires are used in the DHS, the household questionnaire and the individual questionnaire. The purpose of the household questionnaire is to identify the household and list all members of the household and visitors. Information about each person is collected, including name, sex, age, and educational levels. This information is necessary for calculating certain demographic indicators such as birth rates, and to evaluate the quality of field survey implementation. Within the household, all women aged 15-49 are interviewed. There is also an individual questionnaire. The main components of the household and individual questionnaires are presented in Box 6.

Institutions and individuals who have access to DHS data are the host country, USAID, Macro International/DHS, and any researcher whose proposal has been reviewed and approved and who has agreed to share their analysis. A preliminary report is produced within three months after fieldwork, and a final country report within a year. In addition, DHS, local researchers, and individuals under DHS research grants conduct in-depth analysis.

Although DHS cannot be done on an annual basis for monitoring purposes because of expense and the lead time necessary to complete analysis, it can be useful for periodic snapshots of where countries and regions rank with regard to each other.²¹ They can also serve as a solid and reliable baseline that lighter and more rapid surveys can use as their points of departure.

Other Sources of Quantitative Data

The survey methodologies enumerated above do not exhaust the inventory of quantitative methodologies relevant for poverty analysis and monitoring in Africa. In this section, we describe briefly the characteristics of three additional classes of quantitative survey methodologies: household income and expenditure surveys with either national or subnational coverage, subnational household surveys carried out to address specific policy questions, and rapid turnaround monitoring surveys. In addition, routinely generated secondary data are often overlooked as a potentially valuable source of information for tracking key indicators.

Income and Expenditure Surveys

NSOs in many African countries periodically carry out these studies, the primary objective being to obtain weights of typical household consumption bundles to properly estimate consumer price indices. Depending on the administrative capacity of individual countries, these may be national in scope, or limited to key urban centers such as the capital city. Although they are not multidisciplinary, such surveys have a wide range of uses in such areas as demography, employment policy, and food and agricultural policy.

Throughout the 1980s, many income and expenditure surveys were carried out in Africa and worldwide with support from the United Nations National Household Survey Capability Program (NHSCP). Initiated in the late 1970s, the NHSCP had as a primary objective to build a continuous flow of integrated and comparable statistics for development plans, policies, and programs at the national-level

²¹ The usefulness of DHS data for making cross-country comparisons is further explored in Chapter Four.

BOX 6

A PROTOTYPE DEMOGRAPHIC HEALTH SURVEY

The DHS survey is divided into two sections: the Household Questionnaire and the Individual Questionnaire. The household questionnaire obtains information such as the location of the household, and name, sex, and age of household members and visitors. The household questionnaire is used to identify who should be interviewed with the individual questionnaire. The individual questionnaire is the "heart" of the DHS. It is normally based on those individuals who are women and aged 15-49. In addition, there are Individual questionnaires designed for two categories of countries. An "A" questionnaire is designed for high-contraceptive-prevalence countries, and a "B" questionnaire for countries in which there is little contraceptive use. The "A" and "B" questions are identical, but the manner in which the surveyors ask and record questions differs. The following is a prototype of both the household and individual questionnaire:

HOUSEHOLD QUESTIONNAIRE:

Basic Household Data; Survivorship and Residence of Parents; Eligibility for Individual Interview; Household Amenities; Time to Get Water; Drinking Water; Toilet Facilities; Household Items; Number of Rooms Used for Sleeping; Floor Material; Ownership of Transportation

INDIVIDUAL QUESTIONNAIRE:

I. Respondent's Background: (1) Start/Time of Interview; (2) Childhood Residence; (3) Date of Birth and Age of Women; (4) Education and Literacy; (5) Mass Media; (6) Religion and Ethnicity; (7) Household Characteristics of Non-usual Residents

II. Reproduction: (1) Lifetime Fertility; (2) Detailed Birth History; (3) Current and Recent Pregnancy History; (4) Menstruation

III. Contraception: (1) Knowledge and Use of Methods; Knowledge of Sources; (2) Probes on Contraceptive Use; (3) First Use of Contraception; (4) Current Use; (5) Pill Use; (6) Source and Availability of Method Currently Used; (7) Method Preferences and Problems of Use; (8) Duration of Use, Discontinuation, and Exposure; (9) Use Before the Calendar Period; (10) Intentions to Use Contraception in the Future; (11) Source of Preferred Method; (12) Media Information on Family Planning

IV. Health of Children: A: Pregnancy and Breast-feeding: (1) Fertility Planning; (2) Antenatal Care; (3) Tetanus Toxoid; (4) Delivery; (5) Postpartum Amenorrhea and Abstinence; (6) Breast-feeding: Ever, Duration, Reasons for Never Breastfeeding and Stopping; (7) Supplemental Foods Given Yesterday, Age When Solids and Liquids First Introduced, and Frequency of Breastfeeding; (8) Duration of Postpartum Behavior Before the calendar Period. B: Immunization and Health: (1) Vaccination Information Obtained from Written Records and from the Mother's Recall; (2) Fever; (3) Cough - Acute Respiratory Tract Infection; (4) Diarrhea and Treatment with Oral Rehydration Therapy; (5) Knowledge of Oral Rehydration Therapy

V. Marriage: (1) Marital Status and Co-residence; (2) Date and Age at Marriage; (3) Recent Marriage History; (4) Sexual Activity

VI. Fertility Preferences: (1) Reproductive Intentions; (2) Sterilization Regret; (3) Discussion on Number of Children and Husband's Preferences; (4) Ideal Family Size; (5) Ideal Birth Interval

VII. Husband's Background and Woman's Work: (1) Husband's Education; (2) Husband's Work; (3) Residential Mobility; (4) Woman's Employment

VIII. Maternal and Child Height and Weight: (1) Checking for a BCG Scar; (2) Weighing and Measuring Young Children and Mothers

Source: Selected Reports from Macro International, Inc.

United Nations Statistical Office (UNSO, 1981). Until its termination in the early 1990s, it served as both a data-collecting and capacity- and infrastructure-building exercise. Although income and expenditure surveys were central to the NHSCP, the larger goals were to increase national statistical capabilities included mounting censuses, updating resulting national sample frames, and developing and administering surveys in labor force composition, access to social services, food consumption, and household enterprises. All of these surveys had the household as the primary sampling unit. No single NHSCP survey instrument could be classified as "integrated" in the sense of the LSMS or the SDA methodologies; rather the aim was to establish and strengthen national statistical systems through implementation of a series of single-topic, but related, surveys.²²

It is important to point out that the success or failure of many of the quantitative surveys carried out in Africa today depend largely on the human and physical capital infrastructure legacy left by NHSCP.

Policy-Specific Subnational Household Surveys

National surveys with large samples are often unable to provide the types of detailed information needed to inform specific policy issues, especially sectoral ones. Policy analysts must often have a firm understanding of causal relationships for specific subgroups of the population (such as farmers with different levels of resource endowments or in different agroclimatic zones). National surveys either do not pursue policy topics in sufficient detail or do not adequately sample these relevant population subgroups. The International Food Policy Research Institute (IFPRI) has conducted numerous subnational household surveys related to food and agricultural policy issues in Africa and throughout the world. Such surveys have the following characteristics (Puetz and Slack, 1993):

- The focus is on policy in the following five areas: agricultural technology and the environment, commercialization of agriculture and nutrition, market and pricing policy, famine and drought, and public works and infrastructure;
- Sample sizes are small relative to other quantitative survey methodologies in this chapter, ranging from 200 to 1,000 households;
- They are limited to just a few regions;
- Although most surveys involve one year or less of fieldwork, some are multiyear to permit longitudinal analysis of panel data; and
- Stratified random sampling procedures are usually adopted to ensure adequate representation by agroecological zone, by adopters or nonadopters of technology, and so on.²³

Such surveys are oriented more toward research and analysis than to monitoring. They provide detailed data that allow researchers to explore complex relationships between policy, technology,

²² In this report, NHSCP is not assessed because it was a program for increasing national statistical capabilities — not a specific survey methodology.

²³ These characteristics are also common to the USAID-funded food security research of Michigan State University in a number of African countries.

infrastructure, and farmer production and marketing strategies. It generally takes several years to generate final results, although a series of preliminary reports may surface more quickly.

Monitoring Surveys

Microcomputer technology has made it possible to implement subnational surveys looking at specific policy or social issues with very rapid turnaround time — around six months. This would not have been possible 10 years ago because data processing would have constituted a major bottleneck. Such surveys, most of which do not claim to be nationally representative, hold great promise for providing timely and pertinent information to policy makers. Box 7 provides an example of a survey from Kenya on maize marketing reform. Turnaround time from fieldwork to final report publication was only four months.

Box 7 also includes an example of regular monitoring from Malawi. There, IFPRI worked with the Ministry of Agriculture to institute a regular household food security and nutrition monitoring system. Building on the ministry's extensive network of agricultural extensionists, a national system was mounted to monitor a range of policy issues, and turnaround from data collection to analysis and dissemination (at both the national and regional levels) was rapid — in six months.

Secondary Data

Secondary data can be used for monitoring indicators where governments collect the necessary data on a regular basis. For example, ministries typically tabulate data on gross and net school enrollments, male/female ratios, and repeater rates. Ministries of Health regularly collect clinic and hospital data on child nutrition status, disease incidence, and inpatient and outpatient visits. NSOs and Ministries such as Commerce and Agriculture collect prices and wages data. These data are of uneven quality and reporting systems along the chain of command are often poorly organized. In many cases, data are collected in raw form and never processed, let alone used for monitoring or input into decision making. Donors can continue to support improvements in these areas. Even if bias remains in the data,²⁴ they can still be used for signalling directional and marginal changes in social service access or purchasing power that impact on the poor and signal the need for more detailed study. As mentioned in Chapter Two, simple terms of trade indices could be used for signalling fluctuations in purchasing power. Significant changes in in-patient, out-patient visit volumes or school enrollment rates could signal adverse effects on health and education access resulting from increased user fees. If a quick look at the data seemed to indicate a potential plummet in food or social service access for the poor, this would signal need for more detailed analysis and groundtruthing.

²⁴ Clinic data on disease incidence and infant and maternal mortality rates are standard examples because they do not capture those who did not visit the clinic.

BOX 7

RAPID TURNAROUND POLICY MONITORING SURVEYS: EXAMPLES
FROM KENYA AND MALAWI**Maize Marketing in Kenya**

In March and April 1992, a survey of 1,670 households in eight districts of Kenya was undertaken to assess effects of ongoing maize marketing reforms. Using the master sample frame developed under the 1989 National Census, a nationally representative sample was designed using a stratification scheme of maize surplus, deficit, and marginal zones to better capture production and marketing disparities.

Three types of absolute poverty vulnerability measures were calculated: a head-count ratio based on caloric intake; a caloric gap ratio measuring the magnitude of the deficit below the benchmark minimum level; and a severity index that measured the inequality of vulnerability below the benchmark level. Calculation and analysis of these indicators showed that geographical distribution of incidence, prevalence, intensity, and severity of caloric deficit was highest in the surplus and deficit strata, and more moderate in the marginal stratum.

The study recommended that the government exercise prudence in its efforts at maize marketing parastatal rationalization to minimize possible negative welfare implications on especially vulnerable districts. In addition, the authors encouraged further efforts at reducing restrictions on inter-regional maize transfers by private traders.

Household Food Security and Nutrition Monitoring in Malawi

The Food Security and Nutrition Monitoring (FSNM) survey in Malawi is intended to generate timely information so that policy interventions can be identified to improve household food security and reduce malnutrition. Conducted semiannually — just after harvest and at the beginning of planting — in each of Malawi's Agricultural Development Divisions (ADDs), the FSNM survey has three modules: household food security, household income and expenditure, and nutrition monitoring. A multistage stratified random sampling procedure (based primarily on administrative breakdowns) results in a sample size of 4,800 households (20 households for each of 240 enumeration areas). Data are entered and cleaned at the ADD level, and are generally available within two weeks after data collection. Analysis is decentralized: each ADD prepares a "Food Security Working Paper." There is also a consolidated national report.

In several instances, ADD-level analysis has led directly to concrete actions to improve food security. For example, in the Ngabu ADD in southern Malawi, FSNM uncovered that households with vegetable gardens next to streams had lower food insecurity. In the same ADD, FSNM also found that households that cultivated drought-resistant sorghum did not run out of food as early in the year as those that exclusively farmed maize. As a result, an extension message on vegetable gardening was developed and disseminated in the Ngabu ADD, and government de-emphasized the importance of maize production in that area — something it had pushed exclusively in the past.

Sources: For Kenya: Lunogelo and Gordon (1992); For Malawi: Babu and Mthindi (1994).

QUALITATIVE APPROACHES

Qualitative methods have the flexibility to start with small amounts of information to produce qualitative but verified information about poverty, and certain amounts of quantified data, reflecting social and environmental causes of poverty, people's attitudes and values concerning poverty, beneficiaries' and institutions' behaviors, and motives and constraints to behavioral change and poverty reduction, all in an

historical and country context. Qualitative studies may be particularly useful in uncovering complex causal links between different factors, which is an important strength when assessing a complex phenomenon such as poverty. Understanding causality, motivations, and constraints is critical in designing programs to alleviate poverty or in choosing what to monitor for change. Qualitative methodologies can usually do this in a short time with small samples and modest levels of human and financial resources. But the degree to which their findings and analyses represent a larger population or even the population studied must be demonstrated clearly in each study.

Qualitative methodologies fall toward the lower left-hand side of Figure 1 because sample sizes are smaller, often the result of careful purposive sampling. Analysis and monitoring of poverty are often done in countries where only limited amounts of reliable data are available and it is in such cases that qualitative method may be able to play an especially important role. They can begin to generate valid information where little is known, thus enhancing the potential reliability of subsequent survey efforts — both qualitative and quantitative.

Representativeness of Findings from Qualitative Analysis

Proponents of qualitative methods argue yet another strength: because most qualitative approaches take a systematic approach to asking the people themselves what they consider to be key characteristics of poverty, causal links, and about coping strategies for dealing with transitory and chronic poverty, the researchers are more apt to uncover the critical aspects of poverty. As such, proponents posit that qualitative methods can give a clearer and more accurate, though not necessarily statistically representative, picture of poverty than statistics measuring poverty as defined by the outsider.

The numerous validating techniques and kinds of sampling that qualitative methods use mean that even informal techniques can give a systematic though not numerical picture of poverty, and potentially more operational findings. Nonprobabilistic does not mean unscientific. Qualitative methods are able to indicate "normative" and "normal" behavior and deviations, and orders of frequency. As pointed out above, qualitative methods may also use probability sampling and numerical data. But from a statistical point of view, qualitative methods represent only the small groups they sample, and one must be cautious about scaling up findings of a qualitative exercise to a larger population. By using the proper tools in the proper fashion, judicious scaling-up is possible.

Qualitative Methodologies

Quantitative methods such as LSMS, the SDA surveys, and DHS are distinguishable from one another because they are products of a specific set of researchers or analysts and have the stamp of individual donor agencies. When it comes to qualitative methodologies, it is far more difficult to clearly differentiate prepackaged methodologies. To clarify what we mean here, it is necessary to make a clear distinction between *methodologies* and *techniques* or *tools*. In the context of this study, a methodology is essentially a conceptual approach or orientation for conducting fieldwork and eventual analysis. A technique or tool is a specific activity implemented to collect data. For example, the LSMS, SDA, and DHS methodologies use the technique of a structured survey for collecting data. In any given country setting, modules may be added, dropped, or modified, but the basic technique remains the same.

To simplify but clarify why it is difficult to differentiate among qualitative methodologies, each of the quantitative methodologies outlined above is associated with a single technique — a structured survey. Each of the hybrid methodologies discussed later in this chapter (Sentinel Site Surveillance or

SSS and Knowledge, Attitude and Practices or KAP) is associated with just two techniques — a structured survey questionnaire and the focus group. By contrast, qualitative methodologies are less closely tied to one or two specific tools: instead they draw upon a repertory of techniques. Different methodologies often use the same tools and are distinguished by the degree to which each methodology relies on some techniques more than others.

Qualitative methodologies are clusters of techniques. Analysts are often obliged to use one technique rather than another, depending on the amount of information already available. They could not, for example, do a *purposive sample* of poor people until they know who or where the poor are; instead they would need techniques to identify them such as *informal, open-ended interviews* with *key informants* who can discuss the nature and problems of poverty in their society, and *community interviews* to discover common knowledge and attitudes about poverty, in order to begin to identify the poor for *informal sampling*. With more information, more directed tools from the repertory can be used to do *purposive or cluster sampling, problem identification, or random spot observation and household, semistructured or structured individual interviews, or case studies*.²⁵

With the caveat that there is no fully satisfactory way to classify qualitative approaches, we identify three groupings:

- **Intensive Anthropological and Sociological Methods (IASM).** These have their roots in the ethnographic and participant observation heritage where researchers live in communities and observe individual and group behavior over a sustained period of time. Yet just as economic analysis techniques have evolved considerably over the last 50 years, so too have applied social sciences techniques. Techniques have evolved to shorten the observation period, increase the representativeness of case studies ("representativeness" in the purposive sense, not the statistical one), and key in on issues of greatest relevance to project and policy design. Relative to other qualitative methodologies, IASM tends to take somewhat more time, be unidisciplinary, and use smaller samples but collect more detailed data on that sample. Beneficiary Assessment is an example of an IASM that has been used in poverty analysis;
- **Rapid Appraisal Methods (RAM).** An interdisciplinary team uses informal methods and simple surveys to identify, and briefly examine with in-depth qualitative and quantitative probes, the critical elements of a problem. RAM's intent is to identify good-quality information in a short time at low cost;
- **Participatory Rural Appraisal (PRA).** PRA is based on the realization that there has been a strong correlation between project success or assessment quality and the participation of the beneficiaries themselves. PRA's intent is to involve the beneficiaries in the assessment/monitoring process. PRA may illuminate only the sociological aspects of poverty. Implementation usually involves multidisciplinary teams. Originally developed for rural areas, there is no reason why the approach cannot also be applied in urban areas.

Box 8 provides a summary comparison of some of the qualitative methodologies reviewed in this report. Participatory assessment can be distinguished from RAM by its philosophical orientation toward beneficiary participation and empowerment, but it often closely resembles RAM in field applications because it employs the same tools and techniques. These two categories can therefore be grouped

²⁵ See Annex B for a glossary of techniques commonly employed by qualitative methodologies.

together for comparison with other qualitative and quantitative methodologies. The essential difference between the two is that, under the participatory approach, the target population take a larger role in defining the research agenda and is more actively involved in the fieldwork. Empowerment is an over-arching objective.²⁶

BOX 8

OVERVIEW AND COMPARISON OF SELECTED QUALITATIVE METHODS

Intensive anthropological and sociological methods have their roots in the ethnographic and participant observation heritage of anthropology where researchers live in communities and observe individual and group behavior over a sustained period of time. Techniques have evolved to shorten the observation period, increase the representativeness of case studies, and key in on issues of greatest relevance to project and policy design. More recent qualitative methodologies such as those below have their antecedents in this tradition. Relative to other qualitative methodologies, IASM tends to take somewhat more time, be unidisciplinary, and use smaller samples but collect more detailed data on that sample.

Rapid appraisal methods were developed over the last two decades for different purposes — among the areas where they have been applied are farming systems research, health assessments, and participatory appraisals. RAM has a long history in project design, monitoring, and evaluation. The methods have recently been applied to policy-level problems, and only very recently to the assessment and analysis (but not monitoring) of poverty. RAM costs tend to be low because they take a short time and employ small teams. An interdisciplinary team uses informal methods and simple surveys to identify, and briefly examine with in-depth qualitative and quantitative probes, the critical elements of a problem.

Participatory methodologies developed out of RAM and so use many of the same techniques, such as conversational interviews for data collection and analysis. To generate participation, they also rely heavily on participatory games and visual tools such as social mapping and ranking. Participatory methods almost automatically take into account the views of minorities using tools like gender-attribute analysis whereas RAM deals with these issues only if they appear to be critical elements related to the question at hand. Games, individual and community interviews, and focus groups are intended to explore motivations, decision-making strategies, and health or education-seeking behaviors. Participatory analysis verifies findings through the usual techniques such as triangulation, but the participants themselves will often contest ideas and contradict conclusions they feel wrong, thus improving data quality and providing more information.

Intensive Anthropological and Sociological Methods

Qualitative methodologies have their roots in the traditions of ethnography and participant observation where researchers spend a long time in communities observing individual a group behavior and collecting systematic information on behavior, ideas, values, cultural patterns, norms, and deviations. Sometimes this traditional methodology is still used to study poverty but more recent qualitative methodologies have evolved to shorten the observation period and increase the representativeness and to key in on issues of greatest relevance to project and policy design and monitoring. Box 9 presents some background information on the anthropological underpinnings that provide an over-arching framework for much qualitative enquiry.

²⁶ For a more detailed discussion of differences between RAM and PRA, see Chambers (1992).

THE ANTHROPOLOGICAL ROOTS OF QUALITATIVE METHODOLOGIES

Qualitative methods select from a repertoire of tools and techniques developed from their historical, anthropological antecedents in ethnography; case-histories; and participant observation. The aim of anthropology is to learn the ways in which a society's ideas and behaviors are related to one another, and to translate the culture's categories of knowledge and reasons for behavior into comprehensible, sometimes quantified, categories outsiders can understand. All qualitative methods have a holistic view of society and culture, where ideas and behaviors can be related to one another, even in ways surprising to outsiders, though perfectly logical to members of the society. Nothing about another culture can be dismissed from the beginning as irrelevant, and, starting at any point, the enquiry soon leads to the discovery of the important elements of the culture.

Because phenomena may be related in ways the researcher does not expect, he tends initially to shy away from direct yes/no, closed-ended, or multiple choice questions, or from investigatory instruments that preclude exploring unforeseen lines of inquiry. He uses these direct means only after he has been able to develop a survey instrument that truly reflects the way people think and behave. In the beginning he uses, instead, flexible informal interviews, seasonal recall, life histories, and key informants. Qualitative methods have a characteristic approach to data collection and analysis, again rooted in anthropology; research, data collection, and analysis are done concurrently rather than sequentially. In fieldwork *"you learn something (collect some data), then you try to make sense out of it (analysis), then you go back and see if the interpretation makes sense in light of new experience (collect more data), then you refine your interpretation (more analysis), and so on. The process is dialectic, not linear"* (Agar, 1980). As the researcher learns that something is related to something else previously analyzed in another context, or until now not seen as relevant, the research keeps looping back or exploring tangential areas — not following a linear progression.

Validating whether the elements identified are indeed the critical and representative elements in the culture cannot be done statistically when no sampling frame is available. Instead, the qualitative researcher depends on data checking stratagems to verify his data. Techniques include triangulation or cross-checking with other information; deliberate interviewer mis-statements and leading questions to elicit information explaining why the information is wrong; saturation, or numbers of informants repeating the same information; patterns in which new information fits with other information, follows already established patterns, or makes other patterns fall into a more coherent whole; and, finally, direct observation.

The term "intensive" is employed because IASM generally takes more time and collects more detailed data about a smaller sample than do the other qualitative methods reviewed in this report. In addition, though the rapid methodologies tend to be implemented by multidisciplinary teams, IASM teams are made up almost exclusively of anthropologists and sociologists.

The qualitative method used by researchers that is closest to anthropology is Beneficiary Assessment. BA has been used mainly by the World Bank for project development and monitoring beneficiary satisfaction with ongoing projects. It has not yet been used to monitor poverty, though it has been employed for poverty analysis. Iterative BAs have been proposed in conjunction with quantitative measures for monitoring poverty in several countries where BAs have been used in the initial poverty assessment. Some practitioners of BA believe that at least 4-6 months of immersion in a society is necessary to carry out an adequate assessment. This kind of BA can explain social norms and individual motivations and constraints, values, and opinions. It is more difficult for a BA to arrive at quantified information about the number of poor, how poor they are, where they are, where their income comes from and what they do with it, because many of the tools used, such as **semistructured interviews, case studies, and participant observation**, which tie this sort of BA closely to pure anthropology, are hard to quantify. In contrast to traditional anthropology, BA interviews and observations are focused by the

issue they are assessing or monitoring and the problems they study determine the behaviors they scrutinize.

Other practitioners of BA put less emphasis on participant observation and more on **direct measurement, random spot observation, and structured individual and household interviews**, for example, all of which anticipate other qualitative methods like RAM or participatory appraisal methods.

The typical timeframe for a BA is several months. Most BAs take an average of six months and cost under \$80,000 (Salmen, 1992). Use of BA, per se, is not widespread in poverty analysis. However, traditional ethnographic and participant observation approaches, typically of 3-6 months duration, are more frequent. The case study approach is commonly applied, with choice of cases dictated purposively. Therefore, representativeness is often claimed, but not in the statistical sense. Rather, cases are depicted to be representative of a class of individuals or groups who share key characteristics deemed important for the research issue at hand. Techniques have evolved to increase the representativeness of case studies ("representativeness" in the purposive sense, not the statistical one), and key in on issues of greatest relevance to project and policy design. Box 10 provides a typical example of IASM in practice: it is also useful for pointing out how qualitative and quantitative methods can be used to complement one another.

Rapid Appraisal and Participatory Methodologies

With RAM, an interdisciplinary team, including an anthropologist/sociologist, uses informal methods and problem-focused, informal, semi-structured, or open-ended interviews with individuals, often key informants, to identify and briefly examine with in-depth qualitative and quantitative probes, the critical elements of a problem. Box 11 presents the key elements involved in the informal interview. These critical elements are verified through the typical qualitative measures of triangulation, saturation, and patterns, and in community and group interviews. Researchers take the holistic view that anything may be related to anything, and anything may be important, but, as soon as a lead seems to go nowhere or appears irrelevant (and data-checking stratagems give this some support), they abandon it. Through the dialectical process of collecting unquantified data, sifting through it in preliminary analysis, identifying issues to follow up for more information and analysis, the team gradually moves from gathering unquantifiable to quantified data — how much quantified data depending on their time and resources. RAM can with these techniques produce good-quality interdisciplinary information in a short time at low cost. Costs tend to be low because data gathering takes a short time and uses small teams.

Three forms of rapid appraisal methods are most often used for assessing poverty: Rapid Rural Appraisal, Rapid Assessment Procedures (RAP), and Participatory Rural Appraisal. RRA and PRA use a combination of unquantified IASM-type information derived from informal interviews, open-ended survey interviews, direct observation, and case histories; and quantified information from formal survey methods, though usually not random or probabilistic but purposive or clustered. RRA is most often associated, as its name implies, with rural and agricultural project design and limited forms of agricultural policy analysis. Recently it has been used to examine rural poverty. The rural and agricultural bias of RRA is due to its origins in farming systems analysis, not to any inherent inability to deal with urban areas or urban problems, since many of the techniques for data collection and analysis used in RRA are also used in urban areas by RAP and PRA.

Just as RRA was developed for agriculture, RAP was developed for health. RAP studies that follow the U.N. guidelines collect only a limited set of health data; U.N. RAPs are, therefore, more properly compared with Sentinel Site Surveillance or Famine Early Warning System than other rapid

BOX 10

USE OF INTENSIVE ANTHROPOLOGICAL AND SOCIOLOGICAL
METHODS: THE URBAN POOR IN MALAWI

In March and April 1991, researchers from the Malawi Centre for Social Research carried out a questionnaire survey of 755 households in four "planned" traditional housing areas and four "unplanned" squatter areas of Lilongwe and Blantyre — the two largest cities in Malawi. Because Malawi is an overwhelmingly rural country with only 15 percent of the population living in urban areas, this population had received little attention from researchers in the past. The survey found that urban dwellers were mobile — 77 percent having migrated to the city since 1980 and 39% in the last year alone. Anthropometric measurements of under-fives revealed that 59 percent of the children were stunted.

The quantitative survey was supplemented by a six-month ethnographic or participant observation study in one planned and one unplanned housing area in Lilongwe. Researchers believed that the quantitative survey could not uncover sensitive information on coping strategies for dealing with hardship. One supervisor and two assistants lived for six months in each of the two areas — visiting on average 10 households on a continuous basis each week for the duration of the study. The principal researcher closely supervised implementation of the field work and provided frequent feedback to the field teams.

The ethnographic study found that there were sharp qualitative differences between the two areas, with residents of the planned area having better access to food in shops, better market supplies, and better access to piped water. It was also found that poorer families were under considerable stress, often eating less, buying lower-quality foods, borrowing money, and becoming involved in prostitution to make ends meet. Women tended to do all of the physical domestic work like gathering wood and fetching water, often walking long distances. It was also noted that they exclusively — not men — endured physical sacrifice by going without food to ease the burden on their families; and were more involved than men in work that demanded significant physical exertion. Men were more apt to be engaged in service or production work that required relatively less physical input.

Sources: Roe (1992a) and Roe (1992b).

appraisal methods. Recently non-U.N. RAP methods have also been applied to problems of education, which is also considered to be a major factor in poverty.

Based on the realization that there has been a strong correlation between project success or assessment quality and the participation of the beneficiaries themselves, participatory appraisal methods intend to involve the beneficiaries in the assessment and monitoring process. Participatory methodologies have developed out of rapid appraisal methods and use many of the same techniques such as conversational interviews for data collection and analysis. But to generate participation they also rely heavily on participatory games such as problem identification, and on visual tools such as social mapping and ranking. Participatory methods almost automatically pay attention to minorities by such techniques as gender-attribute analysis, whereas rapid appraisals deal with these issues only if they appear to be critical elements. These games, interviews, focus groups, and community interviews attempt to get at motivations, decision-making strategies, health or education-seeking behaviors, and so far. A recently formalized concept, the institutional assessment, allows researchers and key stakeholders in government and civil society to understand how and why other members of the society react to the poor as they do, the institutional constraints and resources already at people's disposal, and the possibilities of using local/regional/national institutions to implement change. Participatory analysis verifies its conclusions through the usual techniques such as triangulation, but the participants themselves will often contest ideas

ELEMENTS OF THE INFORMAL INTERVIEW

The informal interview is so-called because:

- . A repertory of question-asking strategies is used, as seems appropriate, rather than set questions to be asked precisely;
- . An array of topics is covered but there is no set list of questions because too little is known to set the questions and the interview may open up new avenues of inquiry that need to be explored;
- . Interviewing occurs in any situation where it is convenient or topical, and questions may be asked in different order or left until later;
- . The informant may give any answer; refusal to answer or the way in which the answer is given is just as informative as the answer itself since it reveals attitudes and emotions about a topic; and
- . Interviewers may use leading questions.

and contradict conclusions they feel are wrong, thus improving the quality of the data and providing more information.

Participatory assessment teams use the data collection tools above to generate ownership as the poor reveal to themselves and researchers how they define, experience, and deal with poverty (Narayan, 1992). PRA inquires not only about how the poor perceive various manifestations of poverty — income factors, nutrition/food security, propensity to ill health, vulnerability to agricultural and economic distress, for example — but also their perception of incentives and the regulatory framework that affect their access to physical and financial resources and the labor market. PRA also studies how they view public expenditures and institutions such as those providing social services and a social safety net. The participants' knowledge and views of poverty are then integrated into the team's overall assessment of poverty and what to do about it. Participatory assessments can fall anywhere on the spectrum of beneficiary and stakeholder involvement "ranging from joint decision-making on selection of policies and/or budgetary allocations . . . to the other end of the spectrum where the poor and other stakeholder groups participate through various kinds of data gathering and consultative mechanisms . . ." (Norton and Stephens, 1994).

HYBRID APPROACHES

Two methodologies — Sentinel Site Surveillance and Knowledge, Attitudes and Practices — straddle the quantitative/qualitative divide, and as such, it would be misleading to classify them as one or the other. Both combine a structured questionnaire with more open-ended group interviewing.

Sentinel Site Surveillance or Sentinel Community Surveillance

SSS (or SCS) combine qualitative and quantitative approaches. Because they are concerned with surveillance and monitoring, these methods try to reduce both numerical data and interviews, key informants, and group discussions to graphic and tabular form for comparison with baseline and subsequent survey data. This permits easy comparison, observation of change, analysis, and rapid action when necessary. Sentinel Site Surveillance was developed for appraisal and monitoring in the 1980s for UNICEF epidemiological purposes but has recently been extended to famine, social impact early warning systems, and poverty.

In SSS, a stratified sample of communities (neighborhood, village, institution) for which baseline data have been collected are periodically and rapidly resurveyed through structured household interviews, group discussions, and interviews with key informants/officials to estimate impact, coverage, and change in particular groups or communities.

Initially developed in Central America in 1984, SSS is a capacity building development process intended to produce accurate, detailed, timely, and actionable data with large sample sizes rapidly and at a low cost (UNICEF, 1994). SSS seeks to evaluate conditions in selected rural communities, using district civil servants to perform research to monitor progress toward national goals. NGO agents may also participate. The purpose of involving government workers is to build a critical mass of local people who are trained in the methodology and can train others, promoting sustainable monitoring capacity within a country. UNICEF is using SSS in the context of monitoring progress toward achieving Child Summit goals. Ideally, the SSS cycle described below is repeated on a semi-annual basis.

BOX 12

A PROTOTYPICAL SENTINEL SITE SURVEILLANCE CYCLE

1. Identify set of problems to be analyzed.
2. Review previous studies and other available information.
3. Develop questionnaire with full participation of eventual enumerators.
4. Train civil servants in rudimentary quantitative and qualitative research methodologies.
5. Field work including household questionnaires and various qualitative and rapid survey techniques.
6. Data entry and preliminary analysis.
7. Feedback and interaction with sentinel communities for strategy formation.
8. Definitive analysis.
9. Development of information dissemination strategy.
10. Selection of set of problems for next cycle.

Source: UNICEF, 1994.

The first phase of SSS, an assessment of the problems faced by the villages, integrates quantitative data of earlier studies into a foundation for analysis. Qualitative fieldwork is then carried out by civil servants who have undergone rudimentary training in social survey research and who possess expert knowledge of the terrain. As practiced by UNICEF, they participate in all stages of survey implementation, from questionnaire design to analysis. Fieldwork involves conducting household

interviews and carrying out interviews with key informants and focus groups to assist in the process of interpretation and deciding how development projects can better serve the needs of the beneficiaries. The second phase aims to deepen the analysis by repeating measurement in the sentinel communities, "making impact estimation straightforward."²⁷ The civil servants collect and link together qualitative and quantitative information and feed back the findings to the villagers. See adjacent box for details. The following paragraphs are written based on the SSS conducted in Uganda (done in the context of goals set at the UNICEF summit); findings may be different in other countries.

Proponents justify SSS usefulness (in Uganda) in a number of ways. It "seeks to be a flexible multi-sectoral data source for use by different institutions, concerned with different dimensions of life." Questionnaires are limited to 40-50 questions, in an effort to keep surveys streamlined and uncomplicated. Data entry may be done with a word processing program or very simple database package. Costs decrease after initial training of the research team because, in principle, future training needs are lower and initial participants can lend a hand in training new recruits in later cycles. For example, the first cycle of the Uganda SSS cost \$40,000, most of the money going to training expenses, but went down substantially in later cycles. Another strength of SSS can be its flexible approach to sampling. Samples begin in districts and eventually expand to regional and national levels. The number of sites selected for the Uganda SSS was "based on a desire to have a geographic spread of sites and on the desire for a heterogenous spread of conditions." "SSS is often implemented in data poor countries or emergency situations without reliable sampling frames." (CIET International, 1994). SSS has even been used in countries fighting civil wars, such as Liberia and the former Yugoslavia.

However, potential limitations also exist. Officials administering the surveys could manipulate responses to reflect their own concerns or self-interest. Also, test group bias may have occurred if survey respondents changed their behavior as the result of participating in the survey. For example, enumerators may use the occasion of survey visits to not only interview people about current sanitation and child care practices, but also impart new knowledge about improved practices. If, in the next sentinel survey cycle six months later, villagers have changed practices based on this information, test group bias occurs. Data collected from this village could not be reliably used to extrapolate trends at a higher (regional or national) level.

A prototypical first cycle for a SSS is summarized in Box 13. However, SSS may start in a few pilot regions (as was the case in Uganda), or proceed immediately to the national level (as occurred in Zimbabwe).

Knowledge, Attitudes and Practices Studies

KAP studies use quantitative survey techniques (formal questionnaires and purposive sampling) and qualitative approaches (focus group and key informant interviews) to discern awareness, perceptions, and decision-making patterns among target groups on specific topics. Although sample sizes do not approach those of nationwide surveys, they can be large relative to other types of qualitative survey instruments, say 500-1,500 households or individuals. KAP studies have been used most extensively in the health and family planning sectors, the reason being that public health experts readily acknowledge that achieving a better understanding of local attitudes and perceptions is critical for designing appropriate interventions. In addition, the focus of many project and program activities in these areas is on changing awareness and attitudes. That said, KAP studies are starting to be used in sectors other than health, such

²⁷ Unless otherwise noted, all quotes in this section are from Ledogar and Andersson (1993).

BOX 13

OVERVIEW OF THE FIRST ROUND OF SENTINEL SITE SURVEILLANCE IN UGANDA

PROCESS:

- Number of districts and sites surveyed: 4 districts, 17 sites within the chosen districts.
- Number of people involved in research: 36 district-based civil servant visited sites. Eleven of the group formed the core of the evaluation team, with help from more experienced UNICEF researchers.
- Length of process from questionnaire design through analysis: 3 weeks ??.
- Number of households surveyed: over 3,000.
- Components of analysis: contrasting conditions between the sites and comparing the quantitative data with qualitative and community-level data on each site.

FINDINGS:

- Access to safe water sources was 40 percent, by site this varied from 0-80 percent; for clean latrines the variation was 10-17 percent; prevalence of diarrhoea among under-fives varied from 10-30 percent; use of oral rehydration therapy from 10-75 percent; antibiotic use rate for diarrhoea cases varied 10-80 percent; average costs to treat the cases from \$1-3; measles vaccination among 12-23 months old varied from 40-90 percent; and stunting in the same cohort by 5-60 percent; children living in households that used unprotected water sources were 60 percent more likely to be malnourished.

NEXT STEPS:

- Researchers are using these results to start a dialogue at village, district, and national levels.
- They will expand research to other districts and solidify the strategy for widespread feedback of results to villagers who do not live in surveyed areas.
- The district-based staff from this initial analysis will serve as resource persons the government can call upon to start training their colleagues in other districts.

Source: UNICEF, 1994.

as education and natural resource management. If the general principle that attitudes and beliefs form part of the poverty equation, KAP studies should be part of the poverty monitoring and analysis arsenal. Box 14 presents an overview of a KAP study in Malawi on an issue deemed central to poverty alleviation at the 1994 Population Summit — girls' access to education.

BOX 14

KNOWLEDGE, ATTITUDES AND PRACTICES SURVEYS: GIRLS'
ACCESS TO EDUCATION IN MALAWI

Objectives: To gather information about popular attitudes towards female education in order to develop a social mobilization campaign strategy for increasing female primary school enrollment in the Machinga District of Malawi; and to obtain baseline measures for monitoring the impact of the social mobilization campaign on knowledge, attitudes, and enrollment patterns.

Sampling: The survey covered 319 households (one parent and guardian and one girl between the ages of 10 and 15) from each household. A stratified random survey design was employed — with strata being purposively defined as villages with differing level of female primary school enrollment. In each village, focus group interviews of parents and girls and key informant interviews of educated women (where they were present) were conducted to probe more deeply into several KAP issues. Secondary data from district education offices and the National Examinations Board were also gathered and analyzed.

Findings and Recommendations:

- Although there is little evidence of antagonistic views towards education, neither is there is much awareness by both parents and girls of how education can have a favorable impact on their lives. Educated women (potential role models) are rarely seen, and knowledge of salary levels that educated people typically attain is scant. Parents generally do not know much about the schools in their areas, nor do they know the teachers personally.
- Perceptions about the quality of schooling (success in promoting learning and stimulating students) play a major role in parental decisions about whether the educational enterprise is worth pursuing.
- Traditional female initiation practices (in which they are provided information about sexual relations) are a major factor explaining why girls drop out of school. Some churches have worked to discourage early initiation and similar messages should be encouraged at other churches.
- School administrators and teachers should be encouraged to open up more to communities, asking parents to serve as volunteers and share their experiences in agriculture and other areas in which they have expertise.
- Girls made it clear that there were many things they disliked about school such as physical punishment from teachers, and bullying and disruptive behavior on the part of classmates. School administrators, teachers, and parents should work together to improve the classroom environment.

Source: Hyde and Kadzamira (1994).

CHAPTER FOUR

STRENGTHS AND WEAKNESSES OF THE METHODOLOGIES

This chapter assesses the strengths and weaknesses of each of the methodologies using a standard set of technical and institutional criteria. Table 5 presents a summary of this assessment, which will be referred to throughout the chapter. Criteria include sampling and nonsampling error minimization; versatility; replicability and comparability over time; timeliness for obtaining usable results and analysis; intensity of human resource and skills requirements for data collection, processing, and analysis; cost-effectiveness; and evidence of local ownership (acceptability and perceived usefulness to host governments and other local institutions).

MINIMIZATION OF SAMPLING AND NONSAMPLING ERROR

The reliability of any sample survey is affected by two types of error — sampling error and nonsampling error. Sampling error involves choice of a sample that is not perfectly representative of the total population for which the survey is attempting to draw inferences. In statistically based sample designs, sampling error can be estimated for individual means, percentages, and other types of statistics. This cannot be done for qualitative data. Nonsampling error results from mistakes in data collection and processing. Major sources of nonsampling error include incorrect, false, or misinterpreted responses to questions; data entry errors; and direct measurement error, such as faulty recording of crop yields. In simple layman's terms, nonsampling error lumps together anything other than sampling error that can possibly go wrong in implementing a survey that leads to incorrect estimation of the values of variables being measured. Unlike sampling error, the extent of nonsampling error cannot be quantified, but experienced survey implementors know how to reduce it to tolerable levels through careful questionnaire preparation, adequate training and supervision of enumerators, and systematic data cleaning and cross-checking at the processing stage.

Sampling Error Minimization

National Representativeness

At the national level, there is a general tradeoff between large-scale quantitative survey methods versus smaller-scale quantitative and qualitative methods. The latter simply cannot yield valid national statistics because the universe from which samples are drawn is not the nation, but rather a subset of the nation.²⁸ This being the case, LSMS, IS, PS, and DHS receive high rankings in their ability to come

²⁸ Two clarifications are needed at this point. First, the statement that smaller surveys cannot generate statistically valid data at the national level does not imply that smaller-scale surveys can not provide information that is useful at the national level. It only says that from a purely statistical point of view, results cannot be extrapolated to the national level. Second, the statement that national surveys are able to generate such estimates says nothing about the quality of those estimates. Data quality is an issue related to nonsampling error — not sampling error.

TABLE 5

SUMMARY OF SURVEY METHODOLOGY STRENGTHS AND WEAKNESSES

	LSMS*	IS	PS	DHS	IASM	SSS	RAM/ PRA
Sampling Error Minimization:**							
- National	●	●	●	●	○	⊖	○
- Sub-National	⊖	⊖	○	○	○	⊖	○
Non-Sample Error Minimization:**							
- Seasonality	●	●	○	○	⊖	○	⊖
- Potential Supervision Error	⊖	⊖	○	○	●	○	●
Timeliness	○	○	⊖	○	●	●	●
Versatility							
- Multiple Uses	●	●	●	⊖	○	●	●
- Disaggregation	○	○	⊖	○	●	○	●
- Geographic	○	○	⊖	⊖	●	●	●
- Cross-Country Comparisons	○	○	○	●	○	⊖	○
Cost-Effectiveness							
- Financial Cost Minimization	○	○	⊖	○	●	●	●
- Human Resource Cost Min.	○	○	⊖	○	●	●	●
- Full Use of Data	○	?	⊖	●	●	●	●
Local Ownership							
- Commitment to Methodology	○	?	⊖	⊖	○	⊖	⊕
- Local Analysis	○	?	○	○	●	●	⊕

● = High; ⊕ = High/Moderate; ⊖ = Moderate; ○ = Moderate/Low; ○ = Low; ? = Insufficient Track Record or Great Variation.

* LSMS rankings refer to the prototype LSMS, such as those implemented in Côte d'Ivoire and Ghana.

** Highs, mediums, and lows under these categories refer to methodology capacity to minimize sampling error, non-sampling error, and financial and human resource costs. As with all other criteria in the table, highs are "good" and lows are "bad."

up with statistically valid national estimates for the types of data collected under these surveys. The various qualitative techniques receive low scores for two reasons.²⁹ First, in most cases, no attempt is made to draw a representative sample from which one can then extrapolate to the nation. Second, much of the qualitative data generated cannot be translated into statistics, which are essentially quantitative phenomena.

Regarding sentinel site surveys, the question of national representativeness depends on the survey approach taken in each country, and raises two issues. For traditional SSS, which uses 30-40 villages (or random sampling within 30-40 enumeration areas), sampling error may be high. This is because people in the same cluster tend to have similar socioeconomic characteristics. To ensure broad (national) representativeness, it is better to visit more clusters than more people within each cluster. Other things being equal, the larger the number of clusters selected, the better dispersed the sample, the smaller the sampling error. For this reason, those implementing the Zimbabwe SSS expanded the number of enumeration areas from 30-40 (first three rounds) to more than 270 in the fourth and subsequent rounds, while keeping a more or less constant number of observations (around 4,000 households).

The second issue relates to the use of panel data for measuring changes in indicators. A major reason for UNICEF promotion of SSS is to track progress in meeting the Child Summit goals. However, if SSS is used not only as a data collection vehicle, but also as a way to improve participation in development, outreach services, and so on, this is apt to introduce "test group bias."³⁰ Here again, in Zimbabwe it was decided not to use a panel approach, but rather to draw a new sample each round (albeit within the same enumeration areas) — thus lowering the possibility of test group bias.

These potential problems involve tradeoffs. Increased statistical reliability may imply forsaking some of the potential development payoffs of SSS such as improved social service delivery. Increasing numbers of clusters raises costs and logistical complications of data collection because of increased geographical dispersion of survey sites. In countries considering establishing regular SSS monitoring, the pros and cons of these different approaches must be weighed carefully before deciding on the most appropriate course.

Subnational Representativeness

The level of statistical representativeness (in terms of geography or socioeconomic groupings) is often a major issue in survey design. Policy analysts are generally content with fairly large geographic aggregations, but like to have a fair amount of flexibility for socioeconomic disaggregation (urban/rural, gender of household heads, major sources of revenue, and so on). The national quantitative surveys are all fairly good at this, although those with larger sample sizes (PS and DHS) are more flexible at disaggregating because of the larger number of observations.

²⁹ As detailed in Chapter Three, a great deal of variation exists in the content and implementation procedures for LSMS. Comments in this chapter regarding the strengths and weaknesses of LSMS refer to the prototypical LSMS, such as those implemented in Côte d'Ivoire and Ghana.

³⁰ This type of bias arises if the population being sampled loses its representativeness of the population as a whole solely because of its participation in the survey. If, as a result of being included in the survey, an enumerated household received more exposure to government health workers than nonparticipating households, any changes in behavior and indicator status (improved child care leading to lower disease incidence) would only be representative of the households enumerated — not the general population who had not received similar levels of extension information.

It is often far more practical to implement subnational surveys looking at specific policy or social issues. Such surveys, although not claiming national representativeness, hold great promise for providing timely and pertinent information to policy makers. The studies cited in Box 9 in the last chapter are examples of such surveys.

Those who are more interested in regional planning issues, such as civil servants and project staff at the regional levels, prefer statistically valid estimates at the subregional level to facilitate allocation of resources within their regions. National surveys — even those with large samples — are rarely of much use for such audiences, because the number of observations are insufficient, and perhaps more important, the data are not sufficiently rich to serve much purpose. Qualitative surveys or quantitative surveys specifically tailored to the geographic area in question are far more useful to people at this level.

Another subnational sampling issue related directly to poverty is that the poor are often under-represented in national surveys based on census data. This is because large segments of the poor are highly mobile and live at no fixed residence (whether rural pastoralists or urban squatters) or live in remote areas where access may be difficult. Because of this, national sample survey designs often under-represent the poor, biasing data because of failure to properly account for them. Smaller purposive sample surveys have an important role to play in arriving at a greater appreciation of the characteristics of pockets of poverty. This is becoming increasingly important as African poverty gradually becomes more and more of an urban phenomenon. Studies such as the one portrayed in Box 10 from Malawi (in the last chapter) shed light on the heterogeneity of urban poverty.³¹ In such studies, there is a role for both quantitative and qualitative approaches.

It needs to be pointed out that the above discussion revolves around representativeness in the *statistical* sense. Under this narrow definition, qualitative methods score poorly. However, if one broadens this to include representativeness in the purposive sense (either at a national or subnational level), qualitative methods do much better. By this, we mean the ability to come up with useful information that is representative of the characteristics, problems, concerns, and coping strategies of typologies of individuals or socioeconomic groups (pastoralists, small farmers in different agroclimatic zones, or female-headed households, and so on). Rapid appraisal methods are commonly used to figure out appropriate typologies for individuals and groups prior to launching quantitative surveys in (to name just a few) farming systems research and agricultural policy analysis.

Nonsampling Error Minimization

Under this category, we consider two types of nonsampling error: that arising from supervision problems in implementing fieldwork; and ability to account for seasonal fluctuations.

Potential for Supervision Error

For statistically based surveys, lack of tight supervision of fieldwork is a major source of nonsampling error. For surveys with a large sample size or highly dispersed households, supervision becomes exceedingly difficult. Those at the top of the supervision pyramid cannot possibly be everywhere at once. Inevitably, even the best-run national surveys suffer from a fair amount of

³¹ Also see Box 15, later in this chapter, for an example of a quick-turnaround survey of the urban poor in Nairobi.

nonsampling error because of this. Those who designed the LSMS and SDA survey methodologies were fully cognizant of the tradeoffs between large sample size and data quality. LSMS and IS typically have smaller sample sizes than PS to increase the likelihood that supervision will be more intensive and data reliability higher. LSMS data quality is superior to that of a PS. Although more intensive supervision of enumerators is not the only reason for this, it is a major factor. For the IS, the jury is still out. The only completed is that of Madagascar, which was plagued by numerous difficulties, not least of which was weak supervision of fieldwork.

It is important to underline what may seem an obvious point, but is not always apparent: supervision-intensive surveys on a large scale such as LSMS or IS should only be attempted where implementing agencies have the capacity to carry them out properly. Supervision intensity for these types of surveys is high because of the requirement of multiple visits to households on a strict schedule (to ensure accurate, bounded recall of flow data, especially revenues and expenditures); because of the length of time teams are in the field and the need to keep them paid, fully supplied with materials, and in good spirits; and because of the complexity of the questionnaires. A well-run, large sample survey will invariably have lower nonsampling error than a badly managed survey with a smaller sample.

Because DHS sample sizes are similar to those of the PS, nonsampling error from supervision problems is also apt to be high. However, because of the kind of questions asked in the DHS — extremely personal and sensitive — in looking at nonsampling error the DHS should be compared with smaller surveys. Critical here is that DHS uses female enumerators to interview female respondents because of the topics dealt with. Unless every LSMS or IS team has a female interviewer to handle such questions, it isn't possible to obtain reliable answers to these questions (or even to ask them) in most cultures.

With RA, PRA, and IASM, supervision error will be quite low because the number of communities, households, or individuals observed is small and principal researchers are in intensive contact with enumerators during fieldwork. The number of enumerators is also small, which makes supervision easier too. Therefore the researcher's ability to correct mistakes before it is too late, provide regular feedback, and instruct on new areas to probe is much greater than in large-scale surveys.

Where latitude exists for significant nonsampling error is in the subjective nature of much qualitative analysis. Interpretation of data from some qualitative techniques is more subjective than interpretation of other data. Informal and unstructured interviews, for example, are more open to the analyst imprinting his or her own biases onto responses than, say, wealth ranking. So too are a number of quick sampling techniques such as the opportunistic and snowballing sampling methods. Although checks are built into qualitative approaches (for example, triangulation, which attempts to identify convergence of information), interpretation of qualitative analysis remains highly subjective, less transparent, and more difficult for a third party to replicate compared with interpretation of quantitative data.³²

Potential for nonsampling error in SSS (as practiced to date primarily by UNICEF) is medium to high. This is because SSS typically begins as a training exercise for civil servants with little or no previous survey experience. An intensive amount of fieldwork is packed into a very short timeframe (10

³² That said, it must be acknowledged that quantitative economic analysis often appears far more "objective" than it really is. First, economic theory is far more value-laden than many people realize. Second, choice of analysis technique involves subjective judgement and sometimes is not sufficiently transparent. And third, how one chooses to manipulate and present the data can lead to different results, and this too is a subjective call.

days to two weeks only) and survey questions may be imprecise or poorly worded. Data reliability can also be suspect due to the perceived self-interest on the part of civil service enumerators to demonstrate positive results in the sectors from which they are drawn.³³

Seasonality

Because fieldwork takes a full year, LSMS and IS are able to quantify seasonal variations in income, expenditure, and other variables that fluctuate intra-annually. Although individual households are only visited during a single month, interview schedules are designed to enumerate a representative cross-section of the population each month so that seasonal variations can be captured (or from a statistician's point of view, so that seasonal bias can be eliminated).

Because they are one-shot surveys, PS and DHS are unable to capture seasonal variability. For PS, this primarily weakens data reliability for estimating income, expenditure, and asset accumulation and depletion. For DHS, reliability is most compromised in water-borne disease incidence and nutrition. Use of data from prior year-round surveys (if they exist) for constructing seasonal indices can partially overcome these problems.

For one-shot surveys, it is also a good idea to schedule fieldwork during a time of year when recall for the most important questions is most dependable. For rural income and expenditure surveys, the best time is shortly after the major harvest because farmers will have a good idea of the size of quantities harvested and sold, prices received, and input use. Yet carrying out fieldwork at the right time of the year is easier said than done. Funding delays and administrative complications often retard initiation of fieldwork by several months, but waiting until the next year is not desirable because of the imperative to get some information within a reasonable timeframe. Unexpected events can also intrude to skew data. The Kenya Welfare Monitoring Survey (a PS+) took place during the run-up to the snap national elections called by the government for December 1992. Not only was December a month of typically high expenditure because of Christmas, but the countryside was also awash in cash as the ruling party doled out campaign favors. In addition, ethnic clashes in some areas disrupted fieldwork and contributed to a high percentage of questionnaires having to be thrown out. The PS in N'Djamena, Chad, was carried out during a period of particularly heightened concern over a possible coup d'etat, hampering implementation considerably.

SSS ability to minimize nonsampling error related to seasonality is low. Although one could conceivably capture a degree of seasonality because SSS is carried out twice annually, the few questions that can be devoted to this issue (in light of the fact that questionnaires need to be kept very short and generally deal with a variety of topics) would make any analysis cursory. As a monitoring device (but monitoring only twice annually) for those variables where seasonality is a concern, one should not expect too much precision. As with one-shot surveys, the trick will always be to time fieldwork at the most appropriate times of year, given the priority monitoring questions at hand.

Few qualitative surveys are carried out over a full year, and none of the rapid methods are. However, many of them do delve deeply into issues of seasonality when enquiring about coping strategies

³³ Although the enumerators themselves may not be directly involved in social service delivery (primary health or education) for which they are asking questions, they are often employed by the sectoral ministry and this can create pressure to present statistics in a positive light. Recent adaptations of SSS methodology in Zimbabwe, in which CSO enumerators were substituted for enumerators from sectoral ministries may help reduce this type of bias.

and variability of behavior over time. Especially for qualitative surveys carried out in rural areas and in agriculture, seasonal issues are gone into in great detail. Assessing the effects of seasonality on coping strategies and welfare is one area where quantitative and qualitative techniques can complement each other. Intensive surveys such as LSMS and IS can quantify variations in household financial flows, but they are not as good at explaining why these variations occur or the decision-making processes behind them. Qualitative techniques are very good at this, but again, cannot quantify fluctuations. If the resources are available, a combination of approaches provides a richer picture of seasonal dynamics.

TIMELINESS

Table 6 presents ranges for the amount of time required to implement each step of the survey methodologies. The time required to implement the survey methodologies discussed in this paper from start to finish (in other words, questionnaire and sample design to initial analysis outputs) range from just a few months to almost two years. It needs to be stressed that the times included in this table assume that all runs more or less on schedule. However, more often than not, there are delays, and these can sometimes be significant. In addition, initial analysis involves publication of a statistical abstract or a preliminary report of some sort. In-depth analysis of the large-scale national surveys can go on for years.

TABLE 6
APPROXIMATE IMPLEMENTATION TIME FOR SELECTED SURVEY METHODOLOGIES*

	LSMS	IS	PS	DHS	BA	SSS
Sample Design ^b	2 wks	3 mo	2-3 wks	1-2 mo	NA	1 wk
Questionnaire Design	2 mo	2 mo	6-7 wks	1 mo	NA	1 wk
Training	1.5 mo	1.5 mo	2-3 wks	2 mo	4 wks	(2) ^c
Pre-Test	1 mo	2 mo	2-3 wks	2-3 mo	NA	
Data Collection ^d	12 mo	12 mo	3 mo	3-4 mo	10 wks	2-4 wks ^e
Data Processing ^d	12 mo	12 mo	3 mo	4 mo	4 wks	1 wk
Initial Analysis	2 mo	3 mo	1 mo	2-3 mo	6 wks	1 wk
Total ^f	19 mo	12.5 mo	7 mo	16-18 mo	6 mo	2-3 mo

Notes:

- * Detailed breakdown for RAM/PRA not available; total time usually in the range of 4-6 months;
- ^b Including construction of sample frame where applicable;
- ^c Occurs throughout the SSS process;
- ^d For all except BA and SSS, data processing runs concurrently with data collection;
- ^e Includes pre-test;
- ^f Because some steps run concurrently, columns are not additive.

Of the national quantitative household surveys, the PS theoretically possesses the most rapid turnaround if all goes reasonably well — about one year from fieldwork to publication of the initial statistical abstract. Many of the PSs undertaken have resulted in statistical abstracts within 18 months of initial survey design. However, subsequent rounds should take less time as the first survey is usually the slowest, because start-up time related to sorting out project modalities, accounting procedures, and so on may be time-consuming.

Both LSMS and IS are designed to take 18-24 months. Longer time requirements relative to the PS are mainly because data are collected for a full year to eliminate any seasonal biases that may occur in a one-shot survey. However, for both the LSMS and PS, the actual track record in Africa is longer. The Côte d'Ivoire and Ghana LSMS required 2-3 years before analysis outputs began appearing from the first round of the survey. Longitudinal analysis of all the Côte d'Ivoire rounds began appearing 3-4 years after the final round; for Ghana, results have not yet appeared (two years have now passed since completion of the final round). The Madagascar IS has been plagued by implementation problems from initiation of planning in the late 1980s, and there are still no report results three years after fieldwork ended. The Guinea IS appears to be more closely on track. However, the Guinea NSO already has a PS under its belt. This seems to suggest that getting one's feet wet with a PS before embarking on a more ambitious IS or LSMS (currently the World Bank's position) is the most prudent course.

The full cycle for DHS implementation is also in the range of LSMS and IS. A preliminary report is usually issued just a few months after fieldwork is completed (12-18 months into the process). At the end, the U.S.-based consulting company contracted for the DHS studies produces a polished and standardized country report. This is issued about two years after project initiation.

There is great variation in timeliness of the other types of quantitative household survey methodologies outlined in Chapter Three. Some can take as long as two years from start to finish. Detailed longitudinal research will use surveys that take even longer to yield definitive results.

Unfortunately, the African landscape is littered with data-intensive household surveys that have never been analyzed, or were only analyzed after many years had passed. However, because of the microcomputer revolution, it is now possible to implement subnational surveys looking at specific policy issues very quickly — in as little as six months. Such surveys, while not nationally representative, are able to provide timely policy-relevant information. Box 15 provides an example from Kenya; Boxes 9 and 14 (from Kenya and Malawi) are additional examples. It is important to note that all of these exercises (except the Malawi KAP study) benefitted from the presence of a national master sample frame that aided in sample selection.

There is no doubt that a major advantage of qualitative techniques over national quantitative surveys is their timeliness. Because RAM teams carry out dialectical data collection and analysis in the field, the team is ready to write up its findings with a minimum of post-fieldwork analysis and discussion. Consequently, the turnaround time for RAM is fairly rapid; most RAM are finished in less than four months.

On average for qualitative methodologies, it takes no more than 6-9 months from survey design to fieldwork to analysis. IASM may take a bit longer than other qualitative approaches because ethnographic fieldwork may take several months (although not the 1-2 years of fieldwork sometimes needed for more research-oriented anthropological study); and much of the data are open-ended and unstructured and therefore harder to organize and write up than most RAM. PRA may also last a bit longer than standard RAM because the need to work with local populations at their pace and on their terms can be more time-consuming than if researchers unilaterally set the agenda and deadlines. That

BOX 15

TIMELY AND COST-EFFECTIVE SMALL HOUSEHOLD SURVEYS:
ASSESSING URBAN POVERTY IN NAIROBI

In 1992, with assistance from the IDRC, the Kenya Consumer's Organization completed a survey of four low income areas of Nairobi to assess the quality of housing, sanitation, access to clean water, and income and expenditure on staple food items. Sample design benefitted from the National Sample Surveys and Evaluation Programme (NASSEP) of the CBS as random sampling was done within NASSEP clusters in the four low income areas chosen for the survey. Four short questionnaires were designed and administered in January 1992 to 415 households proportionally allocated to each of the four areas according to the population of each area (as determined under NASSEP). The final report was published five months later. Among its findings:

- As many as 84 percent of the population of Kawangware, Kibera, Mathare, and Soweto lived in unplanned temporary structures with 78 percent of households confined to a single room;
- Nearly all inhabitants (95 percent) endured highly unsanitary toilet facilities or had none at all;
- On average, Soweto and Kibera households had incomes nearly double those of households in Kawangware and Mathare, and transfers from other employers, family members and friends contributed to this. In the former areas, transfers accounted for 42 and 28 percent of monthly incomes, respectively. For both worse-off areas, transfers contributed only 6 percent to monthly household incomes.

The Kenya Consumers' Organization recommended that ways be found to encourage the construction of permanent housing in a way from which current residents could benefit; investment in sanitation facilities in the areas be made; and safety nets be introduced so that incomes could be maintained in the face of rising food costs.

Source: Kenya Consumers' Organization (1992).

said, while delays in qualitative analysis occur on occasion, they do not approach the timeframe of most large-scale quantitative surveys.

SSS is supposed to occur on six-month cycles: the 2-3 month total in Table 7 does not reflect final report write-up at the national level — only regional report preparation. With limited and easily quantified data, the turnaround time for SSS is very short and information is usually up to date. By and large, SSS implemented in Africa has adhered to the six-month schedule (although the track record is still rather slim). The SSS country with the longest track record, Zimbabwe, has completed four SSS cycles in two years (four final reports written and disseminated) and was on schedule on the fifth cycle at the time of writing of this report.

VERSATILITY

This section examines three issues related to versatility: the ability to use the survey methodologies for multiple uses in different sectors; the flexibility of the approaches to generate data that is usable at different geographic levels (national, regional, and subregional); and usefulness of data generated for making cross-country comparisons of basic social and economic indicators related to poverty and well-being.

Multiple Uses

LSMS, IS, and PS have all been designed as multitopic surveys. As discussed in Chapter Three, each consists of a number of modules that can be added or dropped, depending on the information needs of a given country. Incorporation of the community survey assists in assessing the access of those households surveyed to social services and other types of infrastructure. Typically, these surveys generate data that can be useful to analysts in macroeconomics, agriculture and food policy, health and nutrition, sanitation, demography, education, and employment. In countries where several rounds have been conducted, LSMS has evolved so that a "core and rotating system" is generally recommended. This allows longitudinal tracking of the most central modules (such as expenditure patterns) and periodic surveying of specialized modules.

The versatility of DHS is more limited because it deals only with health and demographic topics. As is the case with the other quantitative methodologies, certain modules can be dropped. However, in most cases, countries elect to use most of the questionnaire modules. Even though the scope of DHS is limited, it could be a very powerful tool for poverty analysis if combined with household budget surveys that have used the same sample frame. DHS has been administered in many countries that possess master sample frames where this would be possible. However, to the authors' knowledge, this has rarely been attempted.

SSS is versatile because many topics can be incorporated into any single SSS cycle, and there is great flexibility to add and delete questions and topics in subsequent rounds. Typically a core set of questions that one wishes to monitor over time are retained in each cycle, but new questions are added and old ones deleted as new priorities emerge. Box 16 recounts the evolution of questionnaires for the first four rounds of the Zimbabwe SSS. As one can readily see, as long as one is not looking for detailed information on any one topic, SSS is a handy device for providing quick feedback to decision makers on a rapidly changing policy agenda.

RAM/PRA typically employ multidisciplinary teams, addressing issues across sectors as deemed necessary by team members. Dialectical data collection and analysis also permit the team to learn, refine their instruments and questions, and target their study more and more precisely as the rapid assessment continues. This flexibility allows the team to move from ignorance to producing tested (though not perfected) survey instruments and to gain an overall view of the situation similar to that a more extensive survey would yield. A "quick and dirty" rapid assessment cannot give the precise information about the incidence of poverty that surveys can, but RAM/PRA can give considerable information about the range and extent of poverty and the heterogeneity of poverty (which quantitative surveys may hide in aggregated figures), and RAM/PRA can provide considerable insight into what poverty means, who is vulnerable, and why. RAM/PRA can discover coping strategies and safety nets, but not how many are vulnerable. RAM/PRA can tell what sorts of people need to be targeted, or monitored, but not how many. This is an area where obvious complementarity between qualitative and quantitative methods exists.

Although RAM and PRA are flexible tools that can easily cross several disciplines, no single exercise should cover too broad a range of topics. As with any methodology, the best studies are those with a limited agenda, addressing a well-focused set of questions (albeit in a multidisciplinary fashion). Because they are rapid, there is also a risk that analysis will be superficial if areas of enquiry are not clearly delimited.

The same caveats are appropriate for BA. It produces rich descriptive data with many nuances better than most rapid methods and is capable of giving a good read on the complexity of poverty; it can be used to explain the sources and range of variations of poverty but not its extent of heterogeneity.

BOX 16

FLEXIBILITY IN RESPONDING TO THE CONCERNS OF
POLICY MAKERS: SENTINEL SITE SURVEILLANCE IN ZIMBABWE

Sentinel Site Surveillance was initiated in Zimbabwe in early 1992. The first round covered 4,400 households (and 25,000 individuals) in 30 sentinel sites in all eight provinces of Zimbabwe, and in both urban and rural areas. To increase credibility among SSS users, the Interministerial Steering Committee that provides SSS oversight agreed to modify the sample design in the fourth round. Using the 1992 Zimbabwe Master Sample, 275 of the Master Sample's 395 enumeration areas were randomly selected using proportionality methods and stratified across provincial and land use areas. Second stage sampling consisted of random selection of 15 households within each EA, yielding a sample size of 4,125 households. Although the number of households has remained at roughly the same level as in earlier rounds, expanding the number of clusters (with fewer households per cluster) should increase the reliability of national extrapolations.

Four major topic areas were covered in the first-round questionnaire: demographic and socioeconomic background of the households, food security, cost recovery in education, and cost recovery in health. Different rounds have delved more deeply into certain topics upon request of the Interministerial Steering Committee. For example, in Round two, primary schools and clinics were also visited to examine access to social services more closely. In Round Four, a module was added to assess awareness of and access to the Social Development Fund set up as a safety net during the adjustment process.

The Zimbabwe SSS has also provided rapid turnaround on discrete policy questions. Round Four detected a sizable shift away from roller meal to straight-run maize meal only several months after the May 1993 liberalization of roller meal prices. The proportion of households consuming straight-run meal rose from 33 percent in March 1993 to 71 percent in December 1993, whereas the percentage of households consuming roller meal fell from 79 percent to 23 percent over the same period. Monthly per capita consumption of straight-run meal rose from 2.2 kg to 7.1 kg, while the figure for roller meal was a mirror-opposite — falling from 7.7 kg to 2.2 kg per capita. These figures, plus corroborating evidence from other sources, led to a government decision not to establish a food coupon system for roller meal because substitution to cheaper and more nutritious straight-run meal had been so widespread.

Sources: Government of Zimbabwe Inter-Ministerial Committee on SDA Monitoring (1992 and 1994).

When contacted for this study, most World Bank task managers and social scientists who have used both BA and RAM or quantitative surveys said that they wish the BA had been done later in the data gathering process, when they had identified widespread or specific issues about which they needed more in-depth knowledge.

Disaggregation and Geographic Versatility

For the large-scale national quantitative survey methodologies, versatility for using data for subnational analysis is medium to low. This is a function of sample size. As mentioned in the section on supervision error, LSMS and IS have smaller sample sizes than the PS in order to ensure greater data reliability and lower nonsampling error. With sample sizes in the range of 2,000-4,000, one may already be pushing statistical validity to the limit in countries with 10-15 regions. This leaves only 200-300 observations per region — enough to estimate statistically valid means for some variables (in other words, those with relatively low variances), but not enough to do much useful analysis where further disaggregation is required (urban/rural distinctions within regions, analysis by gender, level of education, or differential access to social services and transport infrastructure, for example).

Because they have larger sample sizes, there is greater flexibility to disaggregate PS and DHS data subnationally. However, once again, the ability to perform meaningful analysis within individual regions is limited — but not as much as for LSMS or IS. Regional planners, and those designing, implementing, monitoring, and evaluating projects within regions and subregions, will find the usefulness of large-scale national surveys to be extremely limited for their purposes.

In contrast, Sentinel Site Surveillance and several of the rapid appraisal techniques have the flexibility to serve both national and subnational information needs. For example, rapid appraisal techniques have been used in agriculture to identify representative farm household typologies for establishment of recommendation domains to guide farming systems research (a national use), as well as for concentrated micro studies to quickly assess cropping systems and constraints to improving productivity. For the Kenya Participatory Poverty Assessment, the cluster sampling framework of the Welfare Monitoring Survey (in turn based on a national master sample frame) was used for rural site selection to enhance credibility in the eyes of decision makers and provide complementarity with quantitative survey work (Norton and Stephens, 1994). Yet it needs to be stressed that, although information may be generated that is of interest at the national and subnational levels, statistically valid extrapolation to a larger population is usually not possible because procedures for constructing a sample frame and drawing a random sample of some sort have not been employed.

As mentioned above, both thematic quantitative and qualitative surveys can be useful for examining the heterogeneous nature of urban poverty. National surveys can provide useful analysis on the broad characteristics of urban poverty; thematic surveys with a more limited geographic focus are much better for detailed examination of urban poverty, coping strategies, as well as for providing concrete guidance for urban planning and safety net design. BA is also very good for gauging the effectiveness of social service and utilities provision from the perspective of the end-user. When the social services in question are education, health, housing, and water and sanitation provision, these are directly relevant for poverty analysis.

Sentinel site surveillance, as currently practiced in Zimbabwe, is yielding information with rapid turnaround that is useful at both the national and subnational levels. As pointed out earlier, attempts have been made to make results statistically valid at the national level, while retaining the regional planning and capacity building objectives of SSS.

Two other types of disaggregation are important to highlight — disaggregation by gender and within households for purposes of discerning intrahousehold behavior. Although gender analysis is possible to some extent with large-scale national surveys, it is limited. Analysis of LSMS, IS, and PS data is possible for female-headed households versus male-headed households. In addition, broad patterns of asset ownership, revenue sources, and labor allocation among male and female family members can be discerned with these survey methodologies (although the capabilities of a PS are more limited). However, understanding the dynamics of intrahousehold resource allocation in any meaningful sense is not possible. For national household surveys, the household itself remains largely a black box. The level of detail that questionnaires would have to employ is simply not feasible with a large sample size.

For detailed gender and intrahousehold analysis, a combination of qualitative methods and focussed small-scale quantitative surveys are most useful. RAM can provide a quick sense of the decision-making processes employed in intrahousehold resource allocation. RAM is often used in farming systems analysis to get a proximate idea of the gender division of labor in agricultural cropping systems.

Reaching a more detailed understanding of such issues, as well as sociocultural reasons for them, will often require an IASM approach.³⁴

Versatility for Making Cross-Country Comparisons

LSMS, IS, and PS receive medium rankings for their ability to generate meaningful cross-country comparisons. Comparisons from data related to health and access to education are fairly good, but cross-country comparisons on income or expenditure levels are highly problematic. The World Bank currently uses a figure of \$1 per capita per day as its poverty line for making cross-country comparisons of income-related poverty. However, as mentioned in Chapter Two, this figure has little real meaning, and is used principally to facilitate computations. For cross-country comparisons to have much meaning, purchasing power has to be factored in somehow, and this has not been accomplished yet. Difficulties in making cross-country comparisons are further compounded because approaches and definitions are not constant across countries (World Bank, 1994). For example, definitions of the household vary between countries and measurement of rural home consumption is a major problem for all of these survey methodologies, especially the one-shot PS. Because accurate measurement of home consumption was judged too difficult, no attempt was made to measure it in the Senegal PS. Where PSs have included home consumption measurement, results are highly suspect. Finally, refusal of some NSOs to release raw PS data lowers the number of countries that one can use for making poverty line comparisons.

The usefulness of DHS results for international comparisons is very high. DHS concepts and questionnaire formats are standardized across countries (although some modifications are made for reasons of cultural appropriateness). For demographic and health indicators, it is also easier to make meaningful cross-country comparisons than for income indicators.³⁵ Among the most important outputs of the DHS program are the comparative studies that rank countries on selected demographic, health, and socioeconomic indicators and analyze the determinants of health and well-being. Table 7 provides an example of results of comparative analysis done on DHS Phase I data for selected Sub Saharan countries and regions. Similar analysis was done for other countries in the world where DHS had been implemented. Analyses related to these indicators identify countries and regions whose fertility and socioeconomic indicators are considered the best in the region, as well as those that are considered worse. Policies and protocols for NSO release of raw data files are also clear: anybody has access to the data upon submission of a request to DHS outlining what the data will be used for.³⁶

Usefulness of SSS data for international comparisons is limited largely to those indicators tracked by UNICEF. Although SSS is a flexible way to collect data on a wide variety of topics, probably only some of the health and education indicators are sufficiently standardized across countries to make

³⁴ Knowledgeable local researchers are often already aware of the cultural reasons behind much intra-household behavior, making a RAM approach sufficient in many cases.

³⁵ Here, "meaningful comparison" means that the information content of a health indicator (infant mortality, vaccination rates, disease incidence) is basically the same. International comparisons are difficult when the question is *why* these indicators are at a certain level, because they are often the outcome of a complex set of cultural and economic factors, and these will differ from one society to the next.

³⁶ One exception is Malawi. DHS fieldwork was carried out in that country in 1991/92 and the country report was published in 1993. As of September 1994, the raw data remain unavailable from the Malawi National Statistics Office. Reticence to release the data appears to be due to a holdover attitude from the days of the Banda regime, when discussion of poverty and malnutrition were taboo.

TABLE 7

HIGHEST AND LOWEST RANKING COUNTRIES AND SUBNATIONAL AREAS ON SELECTED DEMOGRAPHIC AND HEALTH INDICATORS FOR SELECTED SUB-SAHARAN AFRICAN COUNTRIES

Indicator	Lowest Ranking Country (estimate)	Highest Ranking Country (estimate)	Lowest Ranking Region (estimate)	Highest Ranking Region (estimate)
% married by age 20 (women 20-24)	Botswana (19)	Mali (92)	Nothern of Sudan (27)	Kayes, Koulikoro of Mali (96)
Total fertility rate	Sudan (4.74), Botswana (4.78)	Uganda (7.18)	Khartoum of Sudan (3.74)	Western region of Kenya (7.67) and South West of Uganda (7.56)
% who want no more children	Mali, Liberia, Senegal, and Uganda (17-19)	Kenya (49)	Upper West, East and Northern Ghana (7)	Central Kenya (67)
% currently using any method	Mali and Uganda (5), Liberia, Ondo State of Nigeria (6), Burundi and Sudan (9)	Zimbabwe (43), Botswana (33)	West Nile of Uganda, Riverine region of Ondo, Darfur of Sudan, and Mopti, Gao, and Tombouctou of Mali (1-2)	Harare/Chitungwiza of Zimbabwe (52)
% currently using any modern method	Burundi and Mali (1), Senegal (2), Togo and Uganda (3), Ondo (4), Liberia and Sudan (6)	Zimbabwe (36), Botswana (32)	West Region of Uganda, Depressions of Burundi, Des Savanes of Togo, Riverine region of Ondo, Darfur of Sudan, Center and Northeast of Senegal (0-0.6)	Harare/Chitungwiza of Zimbabwe (48)
Median months of breast-feeding	Liberia (16)	Burundi (24)	Kampala of Uganda (14)	Northern, Upper Ghana (29)
% of children 12-23 months with DPT vaccinations	Mali (13), Senegal (18), Liberia (20)	Botswana (88), Zimbabwe (86)	3 regions of Mali, 3 regions of Senegal, 3 regions of Liberia (20)	All regions of Zimbabwe and 6 regions of Kenya (80-98)
% live births (preceding 5 years) for which mothers received delivery assistance from a trained professional	Burundi (19)	Botswana (77), Sudan, and Zimbabwe (69-70)	Depressions of Burundi (8), Riverine of Ondo State of Nigeria (9)	Northern Sudan (99), Harare/Chitungwiza of Zimbabwe (93)

Source: Muhuri, P.K., and Rutstein, S.O. *Socioeconomic, Demographic, and Health Indicators for Sub-National Areas*. Demographic and Health Surveys Comparative Study No. 9. Macro International. June 1994.

meaningful comparisons. It needs to be stressed that SSS is a new methodology in Africa and it will take some time to establish how dependable it is for generating reliable indicators in a wide cross-section of countries, keeping in mind that test group bias also limits the reliability of indicator extrapolation if panel data are used.

Qualitative methodologies rank low in their capacity to generate international indicators — most of which are quantitative and supposed to be nationally representative.³⁷ This is not to say that useful comparative analysis is not possible. Interesting comparative studies using rapid appraisal methods are often generated. Box 17 describes one instance in which qualitative rapid assessment data from 16 countries were used to discern whether there were common patterns in household attitudes and practices related to primary health care.

COST-EFFECTIVENESS

Although the costs of the various methodologies are generally straightforward to calculate, benefits are extremely difficult to quantify. As Figure 2 shows, there are many intermediate steps between generation of data and use of resulting information to improve people's lives in some discernible way. First, analysis has to be done. Then, decision makers must be exposed to the analysis, and act upon it to change policies or make investments. In effective demand-driven systems, they must also see the usefulness of the data and provide input into what is collected and how it is presented (hence the feedback loop from "actions taken" back to "generation of data"). Finally, those policies or investments have to bear fruit in the form of increased economic activity, cost savings, or improvements in people's lives. If data collection and analysis exercises are also used to build local capacity, potential long-run contributions to national development are possible if newly created analytical capacity is used wisely. This also may lead to people-level impact, although here the effects are even harder to pinpoint.

In light of this discussion, we use an imperfect proxy for effectiveness — the extent to which data generated are fully used in analysis. Although this only captures part of the story, it is a sad fact that throughout the world survey data are used in a suboptimal fashion. In Africa, surveys are carried out repeatedly, while at the same time people complain that there is no information available for making informed decisions. Referring to Figure 2, in many cases data are never transformed into analysis. If this is the case, it is useless to proceed further down the chain to eventual impact on people — either via policy change or capacity building.

Financial Costs

For national quantitative surveys, financial costs vary greatly. In approximate order of importance, variations depend, for example, on whether the survey exercise is also being used to build institutional capacity and supply infrastructure (buildings, vehicles, computers); sample size; dispersion of enumeration areas; the level of development of transport and communications infrastructure in the country; whether a permanent nation cadre of enumerators is in place, or a great deal of temporary staff had to be recruited and trained; and all or just a few modules of a survey methodology are used.

³⁷ Obviously, data quality varies widely between countries and the claim to national representativeness rests on very shaky foundations. Often, reported indicators have not been generated from survey data, but are either extrapolations from earlier data points or fabricated in ministries or donor agencies in some other way.

BOX 17

USE OF RAPID ASSESSMENT PROCEDURES ACROSS CULTURES:
ATTITUDES AND PRACTICES RELATED TO PRIMARY HEALTH CARE

During the 1983-1985 period, rapid anthropological assessment procedures were used in 16 Asian, African, and Latin American countries to discern patterns across cultures for attitudes and practices in primary health care. The majority of areas surveyed were rural and poor, and country studies generally took 2-4 months to complete. The study found that:

- All communities used a mixture of indigenous practitioners and Western biomedical resources;
- All communities had some traditional explanations (beyond Western ones) for why people remained healthy or fell ill;
- In all communities, the mother (or senior woman in the household) was the primary diagnostician and initiator of health-seeking behavior. Fathers became involved later if interaction with healthcare entities outside the village or major expenditures were required; and
- All had some problems with the modern healthcare system, including rudeness and condescension of healthcare personnel, crowded and costly services, and long waiting times.

Source: Scrimshaw (1993).

FIGURE 2

DETERMINANTS OF IMPACTS OF POLICY ANALYSIS

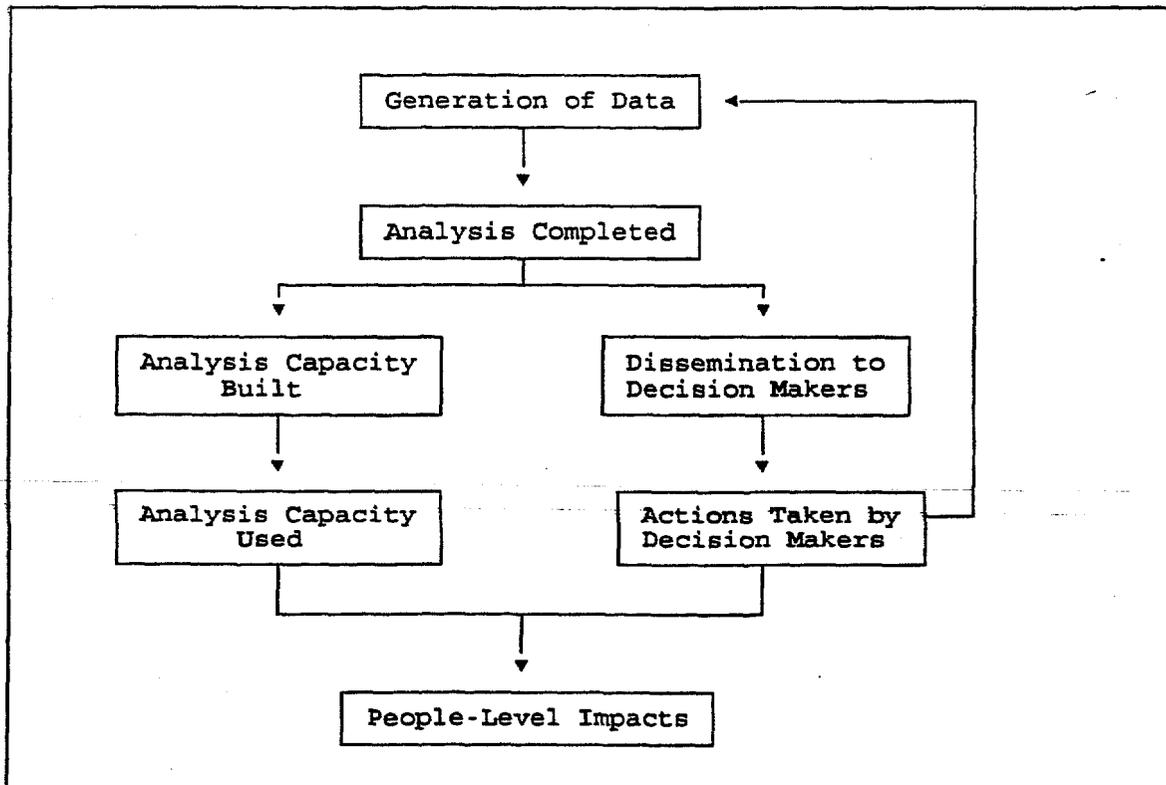


Table 8 presents ranges of approximate variable costs for the various methodologies for which data exist. In some cases (LSMS and PS), these do not include the costs of technical assistance from World Bank staff, which can be very large. For example, Grosh and Glewwe (1992) estimate that mounting an LSMS requires more than 100 weeks of staff time. The figures in the table lack precision, but we can still assert that SSS and the qualitative methodologies are far less expensive to implement than the large-scale national surveys run by NSOs.

TABLE 8

Full Use of Data

A primary advantage of LSMS and IS is that they generate rich datasets. Such datasets can be extremely valuable for analyzing the complex web of causal relationships that explain poverty. Because both the Ghana and Côte d'Ivoire LSMS employed a panel data approach over three rounds, longitudinal analysis was also possible. However, for rich data to be useful, it needs to be analyzed. The World Bank has made extensive use of these two datasets for internal country programming purposes and in policy dialogue on conditionality with the Ghanaian and Ivoirian governments. Box 18

APPROXIMATE AVERAGE VARIABLE COSTS
FOR SURVEY IMPLEMENTATION

Survey Type	Variable Costs (\$)
LSMS	250,000
Priority Survey	300,000
DHS	500,000
Beneficiary Assessment	80,000 or less
Sentinel Site Survey	40-50,000
Participatory Rapid Appraisal	50,000

provides a glimpse of the extent to which the Côte d'Ivoire and Ghana LSMS datasets have been used in analysis. Of all LSMS surveys implemented throughout the world, the Côte d'Ivoire LSMS has seen the fullest use. Yet there are indications that the gap between actual and potential analysis is quite large. For example, the World Bank researcher who has used the Côte d'Ivoire LSMS more than anybody else guesstimates that only about 20 percent of the data has been fully used.³⁸ Although it is beyond the scope of this paper to review all reports that have used LSMS data in their analyses, there is a tendency to use the income and expenditure data quite heavily, while making only limited use of data related to the community questionnaire and several other modules. Longitudinal analysis has been extensive for the Côte d'Ivoire LSMS, while it has been minimal for the Ghana LSS. Although there have been 27 articles and reports issued on Côte d'Ivoire, which used two or more years of data, only two papers using two years of data have been published from the Ghana dataset: none using all three years has yet been issued for Ghana because the 1992/93 third round dataset is still being prepared by the Ghana Statistical Service.³⁹ There is not yet a track record for IS data use because only the Madagascar IS has been completed and analysis is only just beginning.

³⁸ Personal communication, Christiaan Grootaert, World Bank, July 1994.

³⁹ It is also debatable whether there is much value-added to be gained from analysis of the middle years of national surveys (when only three or four years of data are available for longitudinal analysis), as opposed to simply comparing point estimates from the first and last years. However, in-depth examination of how best to structure longitudinal analysis is beyond the scope of this paper.

BOX 18

EXTENT OF ANALYSIS OF CÔTE D'IVOIRE AND
GHANA LSMS DATA

PS datasets are not as extensive as those for LSMS or IS, so more fully translating data into analysis does not require as large an effort. Here, too, the track record is still evolving as PSs that are now being used for analysis were only generated 2-3 years ago. Therefore, any opinions set forth here should be regarded as tentative. The gap between actual analysis to date and potential analysis seems to be narrower than for LSMS. Yet there are problems, the most important one being that a number of NSOs either refuse to give out raw data or have only supplied it to the World Bank. For example, in Kenya and Senegal, preliminary analysis has been performed by the NSOs, but other users have been denied access to the raw data. The Malawi PS data (modules of a larger national agricultural census) are not yet fully processed, but if past history is a guide, the NSO will not make raw data available to those requesting them. And although the NSOs are generally responsive to requests for tables, this is time-consuming, and for certain types of analysis (for example, regression analysis on household characteristics), raw data — not aggregated tables — are required.

A World Bank report provides a glimpse of the extensiveness of LSMS analysis as of late 1992. Of 194 articles and reports identified that used LSMS data worldwide, the Côte d'Ivoire LSMS was, by far, the most utilized. Seventy-six (or 39 percent) of the listed publications used Ivoirian data and 37 (19 percent) used data from the Ghana LSS. Although a substantial number of articles on Côte d'Ivoire used more than a single year's data — 27 publications — only two Ghana publications used the 1987/1988 and 1988/1989 data for interannual comparisons. Through 1992, LSMS analysis in these two countries was pretty much the exclusive domain of expatriates. Only 6 of the 113 Côte d'Ivoire and Ghana publications were coauthored by citizens of those two countries.

Source: Grosh and Glewwe (1992).

Use of DHS data ranks very high, primarily because the consulting firm is contractually obligated by USAID to get the country report done within a reasonable amount of time. Policies and procedures regarding access to DHS databases are clear, and there are rarely problems on this front. Implementing NSOs are obliged to make the full databases available to USAID and the consulting firm once the data are fully cleaned and processed. Then, interested researchers prepare a proposal explaining how they will use the data, and data are then released.⁴⁰ The final DHS country report fully summarizes results for all modules of the survey, and in a way that is comparable across countries. In addition, international researchers use DHS extensively for publication in professional journals, especially in the disciplines of demography and public health.

SSS and the qualitative survey methodologies rank high in the extent to which data are fully used. For SSS and carefully-thought-out RAM, heavy emphasis is placed on "optimal ignorance" — collecting no more data than is absolutely necessary for informing analysis. If questionnaires are used, the accent is placed on keeping them short to accelerate fieldwork and minimize processing time. It is less clear how fully data generated in ethnographic survey approaches are used. Here the idea is for enumerators to record everything they observe, and obviously a great deal of this will never find its way into analysis. However, there is flexibility for principal researchers to ask enumerators to concentrate on observing specific phenomena as fieldwork proceeds and a greater appreciation is obtained about which issues seem to matter more than others. In addition, even if a lot of data are not ultimately used, the physical volume of data generated in an ethnographic survey by usually no more than 10-15 enumerators observing just a few households and communities is far less than that generated in a large-scale national survey.

⁴⁰ The only exception to this appears to be the Malawi DHS which the Malawi NSO has not made available to Macro International (the DHS project consulting firm), or to USAID.

As conceded above, full use of data is a distant second-best proxy for benefits. One truer test would be the extent to which survey findings inform and influence decision making. The power of qualitative analysis to make an impression on policy makers should not be underestimated; it possesses the ability to put the flesh of reality on the bones of statistics. The text boxes in a report and the anecdotes recounted to stakeholders frequently cause the most lasting impression. The benefits of BA, for example, were said by many of those interviewed for this study to be "immeasurable," by which they meant that a few tidbits from a BA could make an enormous difference in getting findings accepted, whereas remaining data, which took considerable time and money to collect, often went unnoticed and unused. RAM and PRA can often come up with "flesh" of the same sort as IASM, but analysis may be dismissed as "anecdotal" because it lacks the richness that the greater use of participant observation gives to IASM.

For PRA, reflection on the data use issue must also include *who* uses the data. As a means of empowerment, true PRA places highest priority on target population use of the data for addressing their own problems. How local populations use PRA-generated information may or may not be the way that a government or donor is most interested in using it. For example, most of the discussion of monitoring and choice of indicators in this document is about what *outsiders* consider important to measure, rather than beneficiaries themselves. That said, there is no reason to think that enlightened government and donor officials would be resistant to monitoring indicators that local populations consider important. If anything, being able to demonstrate that local populations perceive certain indicators to be important should enhance their credibility.

LOCAL OWNERSHIP

The degree to which a methodology is accepted by those in the country is open to highly subjective judgment and therefore difficult to gauge. Local ownership of the methodologies is assessed in two ways here. The extent to which local analysts and researchers have participated in analyzing data is used as one proxy. The assumption here is that if local analysts are left out of analysis, or only participate in token ways, there is little likelihood that much sense of ownership will be felt. The second measure is the degree to which governments and other local entities (essentially NGOs, broadly defined) appear willing to repeat use of the methodologies, and even pay for them with their own funds.

Local Participation in Analysis

Local participation has been disappointing for all the methodologies. In most African countries, donors largely set the research and analysis agenda, not only because they control funding but also because the analytical capacity of African governments, university faculties, and national research institutes remains weak. This is a general problem, not one specific to poverty analysis.

LSMS was initiated as a research program of the World Bank. As a result, analysis of Côte d'Ivoire LSMS data was done almost exclusively at World Bank headquarters and hence the dismal record on local participation pointed out in Box 18 above. Although LSMS analysis has made substantial contributions to World Bank understanding of poverty in Côte d'Ivoire (as well as in other CFA zone countries prior to the January 1994 devaluation), it is difficult to detect any Ivoirian sense of ownership

of the survey itself, or of the analysis and its implications for economic and social policy.⁴¹ To date, more effort has been put into ensuring that a greater portion of analysis of the Ghana Living Standards Survey (GLSS) is performed in-country. Because the last round was only completed in 1992/93, it is too early to assess the Bank's success in increasing the involvement of Ghanaians in analysis. There have also been access problems due to Ghana Statistical Service (GSS) reticence to share data with local researchers until it is fully cleaned, the three rounds are reconciled, and preliminary GSS analysis is completed. Those who would like to use the data have been considerably frustrated by significant processing delays. Compared with many other African countries, Ghanaian social science research capacity is large and should be more fully used. The rich GLSS dataset also presents an opportunity to build more local capacity because many postgraduates can benefit from the availability of the data, if the will exists on the part of donors and local university professors to make the effort.⁴²

As mentioned in the previous section, it is still too early to determine the extent to which local participation in analysis of PS data has occurred. However, in recognition of past problems with LSMS on the local-ownership front, the World Bank has been making strong efforts to use local analysts (NSO staff and consultants, usually from universities) more fully. Moreover, capacity building is a major objective of current World Bank activities in the SDA sphere. Yet the problems discussed above related to NSO reticence in some countries to release data pertain here, and unless this is resolved, local participation will not be as great as possible. With regard to capacity building, it is clear that building NSO capacity for survey implementation and summary analysis (production of statistical abstracts) is an important objective. It is less clear to what extent building analytic capacity outside of NSOs is a priority, and it may be unrealistic to expect the World Bank to carry the entire burden. Other donors could make a major contribution by agreeing to fund some of the local analysis. For example, the Overseas Development Agency (United Kingdom) has been heavily involved in GLSS implementation in Ghana and has created a fund for local researchers to conduct studies based on the GLSS data. Other donors should introduce similar activities to ensure fuller local participation at the analysis stage.

For DHS, local participation in analysis has been limited. Although local analysts have assisted in preparation of preliminary reports, final reports are produced in the Washington area by the USAID-contracted consulting firm. Generating high-quality analysis with reasonably quick turnaround time has been the overriding objective of USAID for each of the three phases of the DHS project. Capacity building has received considerably less emphasis. A great deal of training has been carried out to ensure correct fieldwork and data processing, but NSO personnel turnover has taken its toll (obviously, this problem is not unique to DHS). Where DHS is repeated, this occurs on a five-year interval. Because the survey and data processing skills learned in DHS training are highly marketable, the most capable people who have received training soon find more remunerative work in the private sector or with donor agencies.

⁴¹ That said, it may be somewhat naive to think that analysis, regardless of how it was generated, would have had much impact on Ivoirian decision making on major economic and social issues. For example, the most important economic policy issue facing the Ivoirians in the late 1980s and early 1990s — whether to devalue, when, and by how much — was primarily a function of French politics and public finance, and was ultimately taken in Paris, not in Abidjan.

⁴² The best university professors in African social science faculties tend to be stretched very thin. Salaries are very low compared to what can be earned through consultancies to donors for whom they are in high demand. There is little professional or monetary incentive to devote adequate time to supervision of graduate student research activities.

Use of SSS is even more recent than that of PS: therefore, any remarks here must also be viewed as tentative. But indications are that the sense of local ownership of the SSS process — including analysis — is very high. Developing the full involvement of local officials and survey participants is an explicit goal of SSS as it has been developed in Africa by UNICEF. Not only are several social sector ministries heavily engaged in the process, but the fact that turnaround from fieldwork to analysis, workshop presentations, and final report editing is quite rapid has made SSS a key source of information for ministries and donors in the monitoring of programs, policies, and social indicators.

The most important selling point of PRA is that it actively involves local populations in data collection and analysis. Therefore, it should rank very high with regard to this criterion. However, actual use of PRA and other qualitative techniques for poverty analysis is very new in Africa. Applying PRA to policy settings (as opposed to project development) is developing rapidly, and continued experimentation will be required to find the best fit for PRA for informing policy.

For the next few years, expatriate technical assistance will be required in most countries for survey and analysis supervision because there are not that many people who know how to use qualitative analysis techniques for policy analysis at the macro and sectoral levels. On the other hand, many African countries possess a small cadre of Masters and Ph.D social scientists with significant experience using qualitative methods in project design and evaluation. Familiarizing them with these new uses of qualitative techniques will involve considerable training, but not a prohibitive amount. RAM and PRA are a bit of an art; the more experience researchers have with these methodologies the better their results. This means that hiring experts, unfortunately usually an expensive proposition, will pay off in quality. Expatriates are often employed because there are no in-country experts with enough experience. The interpersonal skills of a researcher are as important in interviewing and participatory exercises as their technical knowledge so it is important to hire the right people. Finding local analysts who possess sufficient technical qualifications *and* good interpersonal skills will be a major challenge.

Repeat Use

The rankings for repeat use are defined as: low — the methodology was used once, but not again; medium — used again, but only with donor funding; and high — used again, completely with local resources and with no donor funding.

LSMS has only been implemented in two African countries (Ghana and Côte d'Ivoire), and has not been repeated unless one counts the three rounds that were done in those two countries that are part of the survey design (so that longitudinal analysis can be performed). A first LSMS is in the planning stage for Tanzania. Given the history of LSMS and the SDA methodologies in Africa, it may be a bit misleading to give LSMS a low score because it has not been repeated. As noted in Chapter Three, in the late 1980s the SDA unit of the World Bank took over LSMS activities in Ghana and Côte d'Ivoire and developed a variation of the LSMS — the IS. LSMS is no longer actively promoted in Africa, but this is the choice of the World Bank — not African governments. In any event, neither Ghana nor Côte d'Ivoire have yet embarked upon an IS.

It may also be somewhat misleading to consider IS in isolation of PS. The World Bank considers these as a package, advocating that IS be implemented every 4-5 years, with PSs conducted in between on an annual basis. Although it is too early to make a definitive assessment, no clear pattern of acceptance of this strategy by African governments has yet emerged. The PS has been repeated in several countries (or repeats are actively being planned). In Guinea and Senegal, PSs have been completed and a follow-on IS is currently progressing in Guinea, while one is planned for Senegal. Because IS are only

supposed to be done once every few years, it is too early to assess the acceptability of this methodology (if the criterion used is repeats).

A number of African countries have elected to embark on a second round of DHS. USAID recommends that they be repeated only once every five years, due to their high cost. Among other things, the third phase of DHS (1993-98) includes the second round of surveys for 7 of the 12 African countries that participated in Phase I.

SSS receives a medium because repeats have occurred or are planned in the countries where the methodology has been attempted. Zimbabwe will complete its fifth round of SSS by the end of 1994 (although they have substantially altered the methodology to their needs since embarking upon SSS in 1992).⁴³ For SSS, it takes less time to determine whether the methodology is catching on because each round last only six months and one can complete quite a few rounds in the time it takes to implement a LSMS, IS, or PS and then make the decision to embark upon another one. The true test of local ownership will be whether the methodology is sustained over several years in several countries.

For the qualitative methods, it is difficult to assess the extent of repeat use because employing them for poverty analysis is a new development. Qualitative methodologies have a credibility problem for use at the national policy level. Rightly or wrongly, many decision makers are uneasy with them, considering them anecdotal and not able to provide the nationwide hard numbers they feel they need. Therefore, proponents have a major selling job ahead of them.

RAM, PRA, and IASM may require additional efforts by governments and donors as they are called upon to more fully consider the views and aspirations of target populations. Such an approach runs counter to the narrow technocratic procedures with fixed deadlines that most donors and governments follow in designing and implementing projects and conducting policy dialogue. These methodologies also necessitate intensive, often exhausting and difficult, time in the field. Less-than-devoted practitioners may gather less information than is actually possible or needed. These methods also demand cooperation and understanding among team members; disagreements over analysis or personal conflicts may disrupt and damage research.

Despite these problems, if practitioners of the qualitative methodologies can demonstrate the ability to quickly come up with credible results and solid prescriptive analysis (versus lots of description) leading to concrete and practical policy recommendations, then there will be room for them in poverty analysis. For example, participatory approaches have a great deal of potential if villagers see that their participation will lead to something tangible like improved social service delivery or development projects that are more responsive to their needs. Due to lack of timeliness, and the oft-seeming unreality of much quantitative economic analysis, decision makers in governments and donor agencies are increasingly frustrated with nationwide quantitative approaches.

In conclusion, if one defines the "high" criterion for local ownership as host government willingness to use its own money to fund surveys, none of the methodologies can boast this. Except in extremely rare cases, all survey work (whether related to poverty or not) remains dependent on donor resources.

⁴³ SSS had credibility problems in Zimbabwe because of the small number of sentinel sites in the first three rounds. To remedy this, it was turned into a nationwide survey while retaining some of SSS characteristics — strong involvement of district officials in analysis, quick turnaround, and feedback sessions with representatives of local populations. Yet if this adaptation proves to be successful, one can ask "is it still SSS?"

CHAPTER FIVE

DETERMINING THE APPROPRIATENESS OF ALTERNATIVE METHODOLOGIES FOR POVERTY MONITORING AND ANALYSIS

To reach a better understanding of the causes of poverty, and to track evolution over time, a creative and well-thought-out mix of quantitative and qualitative survey methodologies is the best approach.

As Table 5 in the previous chapter demonstrated, no single methodology scores high on all the criteria identified. In the development community, a general consensus is emerging that quantitative and qualitative approaches are complementary — not mutually exclusive — and the absence of one limits the reliability of the other. Without national surveys, there is always the suspicion that qualitative findings are anecdotal. Without qualitative work, quantitative findings are open to the charge of being overly mechanical, simplistic, and ignorant of reality. In addition, national surveys lack the quick turnaround time and flexibility that policy makers need, while quick turnaround surveys may not provide adequate appreciation of the complexity of poverty or of micro-macro linkages that are not obvious.

Although this consensus seems to be emerging, there is a long way to go to better integrate the two approaches. This is primarily because of the mutual distrust that economists and statisticians on one side, and anthropologists and sociologists on the other, feel for each other. If a greater understanding of the many dimensions of poverty is to be reached, all will have to do a better job of getting along and learning what the other disciplines have to offer. Economists would be well advised to get out of capital cities more often and observe how Africans actually live and perceive their problems. Statisticians need to realize that data that are less than nationally representative have utility too. Anthropologists and sociologists need to push some of their analysis harder to trace the sectoral and macro-level implications of their micro-level work.

DETERMINING PRIORITIES AND RESOURCE REQUIREMENTS

Box 19 identifies a series of questions that one should ask when designing national poverty monitoring and analysis programs. The first question that needs careful consideration is what will the data be used for, and what are the objectives of the data collection effort in terms of timely generation of data, capacity building, and degree of local ownership of both the data collection and analysis efforts? Specifically, what are the most important indicators that need to be tracked over time, and what major policy questions loom on the horizon for which a quick-response mechanism may be needed?

Assessing the degree of precision (or rather imprecision) that one can live with is also important. Here the concepts of "optimal ignorance" (not collecting more data than needed for answering the question at hand) and "precise imprecision" (not collecting data that are more precise — and therefore more costly and time-consuming — than they have to be) are important, and have all too frequently been ignored in past "data-driven" survey exercises. The result has often been frustration and inability to respond to decision maker needs within a reasonable timeframe, as well as wasted money and human resources as poorly thought-out surveys fail to lead to practical analysis that can guide decision makers.

BOX 19

A CHECKLIST FOR IDENTIFYING PRIORITIES AND RESOURCE REQUIREMENTS

I. To what uses will the data be put?

- What are key indicators and priority policies and programs that require monitoring?
- By when do you need to have information?
- Is it important to be able to extrapolate to a larger population?
- How well do you need to be able to understand causal relationships?
- What degree of uncertainty/imprecision in the data can be tolerated?
- What degree of precision is felt necessary to measure change in poverty status and understand why change has occurred?
- What degree of local ownership is desired?
- What is the relative importance of generating high-quality data and analysis quickly versus institution building?

II. What resources are you beginning with?

- What are the capabilities of existing human resources in the country for implementing surveys and processing and analyzing the data?
- What capacity (administrative, financial, and political) exists for government, donors, NGOs, and local communities to act upon the information to alleviate poverty?
- What analysis is already available related to poverty?
- What unanalyzed raw data exist related to poverty, and are they still relevant, timely, and adequately documented?
- Are there ongoing monitoring efforts in closely related areas (famine early warning systems, health and nutrition surveillance)?
- What is the state of the physical infrastructure required for survey implementation (vehicles, computers, and so on)?

III. What additional information and resources are needed?

- To understand what causes poverty?
- To know where the poor are located?
- To be able to track changes in poverty status and why these changes occurred?
- To build institutional capacity to desired levels for survey implementation and analysis?

Once priority information needs are determined, it is necessary to look at what resources already exist that can be used to obtain this information. This involves assessing existing sources of data and analysis, and the current stock of human capital and physical infrastructure that can be used for future poverty monitoring and analysis.

After comparing information needs against existing available resources, it is necessary to identify gaps in analysis of what causes poverty and the socioeconomic and geographical characteristics of the poor. It is also important to see what additional resources are required for regularly monitoring changes in poverty status and why these changes occurred. Finally, estimates are needed of resource requirements for building institutional capacity to the desired levels for survey implementation and analysis.

What are some of the key indicators that national poverty monitoring systems should attempt to track? Obviously, this will vary substantially from one country to the next, based on major policy and investment programming questions facing governments, as well as the other issues identified in Box 19 above. Typical indicators (an adaptation of those appearing in Table 3, in Chapter Two) are listed in

Table 9. This table highlights several important considerations for poverty monitoring at the national level. First, the most meaningful indicators for regular monitoring purposes are those that can be expected to fluctuate significantly in the short run. For example, child malnutrition rates exhibit more short-run variability than do child mortality rates. Tracking short-run variables can signal the need for rapid and region-specific intervention. The longer-run variables relate more to chronic poverty, and strategies for improving them are essentially questions of human capital formation or attitudinal change. That being the case, serious attempts to estimate their levels should only be undertaken every several years.

Second, some variables are easier to reliably estimate than others. This is both a function of cost and inherent data collection problems. Caloric availability is, in part, a function of food production — notoriously difficult to measure accurately in a developing country setting, and often very expensive and time-consuming — whether calculated from household income and expenditure surveys or crop production surveys. Constructing terms of trade indices may be a far more practical and cost-effective alternative because these only involve collecting price data in key markets (provided that one has recent household data available on income and expenditure patterns for indicating how price changes may be affecting purchasing power). This is a much less daunting task, but one that conveys powerful information about purchasing power and food access with extremely rapid turnaround.

Third, exclusive reliance on quantitative indicators is not a good idea. Even if it were possible to obtain statistically reliable estimates, interpretation is rarely straightforward. For example, regional variations in enrollment ratios or health and sanitation indicators can result from many different factors, including economics, culture, and religion. Depending on which of these are dominant, appropriate intervention strategies will vary. Also, attributing causality for changes in indicator values is also complicated. Finally, quantitative indicators provide few clues about how behaviors and coping strategies are changing to respond to exogenous shocks — either positive or negative. For these reasons, greater use of qualitative surveys is necessary to explore more fully the reality behind the numbers, and to come up with practical policy and investment recommendations.

In sum, quantitative indicators are necessary for providing a broad picture of how poverty is evolving and for identifying areas requiring further investigation. They are not sufficient for adequately describing the nature of poverty in a country or region, nor for coming up with practical solutions.

CHARACTERISTICS OF EFFECTIVE NATIONAL POVERTY MONITORING AND ANALYSIS SYSTEMS

Poverty monitoring systems need to be realistic, flexible, and able to respond to major policy questions within a reasonable timeframe.

To date, pragmatism and realism have not always been top priorities for survey work related to poverty monitoring and analysis. The outcome has usually been a huge backlog of analyzed data at the same time that decision makers remain starved of policy-relevant information. This situation is as much the fault of the decision makers themselves as of anybody else, because they often fail to appreciate the tradeoffs between costs of collecting data and benefits from improved information. Everybody would prefer to have high-quality, nationally representative data, but this is rarely possible within a reasonable timeframe. Nor are such data necessary for most of the policy and investment-related decisions that governments are called upon to make. Also, many government decisions are based on a complete lack of serious empirical analysis, or simply on political considerations. Integrating even the simplest survey

TABLE 9
DATA COLLECTION STRATEGIES FOR KEY POVERTY INDICATORS

Indicators (& Frequency)*	Data Collection Strategy	Comments
For Monitoring Short-Term Trends in Poverty		
Calorie availability & intake (annual)	Agricultural production and import estimates (for food availability), income and expenditure surveys (for access or intake)	Food production and caloric intake difficult and expensive to reliably estimate; production estimates give no indication of access, which is more meaningful for poverty
Terms of trade for key commodities (monthly)	Track evolution of prices for items constituting major shares of revenue and expenditure of vulnerable rural and urban populations	Easy and cost-effective to estimate; provides easily interpretable information about evolution of purchasing power
Child malnutrition (monthly)	Community-based surveys, clinic/hospital data (best for tracking trends, but not for absolute levels)	Clinic data easy to collect but may be biased (due to absence of coverage of children not visiting clinics); community-based data harder to collect but avoids bias problem
Child vaccination coverage (annual)	Community-based surveys, secondary data from ministries of health, clinic/hospital data, data on vaccine distribution	Data on distribution easiest to collect, but vaccines distributed may not all reach target populations
Net primary enrollment ratio (annual)	Secondary data from ministries of education	Easy to collect, but in most African countries these are currently unavailable (gross enrollment figures more common); gender disaggregation is important
Unskilled wage rates (monthly)	Light surveys, especially in urban areas	Easy to collect, although noncash benefits may also be important (apprenticeship, in-kind payments, etc.)
For Monitoring Longer-Term Trends in Poverty		
GDP per capita (annual)	Need a complete set of national accounts and (adjusted) census figures	Too aggregate to have much meaning for poverty monitoring
Percentage of population below the poverty line (annual)	Income and expenditure surveys with adequate sample sizes for statistically significant regional breakdowns, poverty lines may be relative or absolute	Expensive to collect on annual basis; timely analysis is problematic; numerous technical and political problems in setting poverty lines as well as in interpreting changes in poverty status over time
The Gini Index (annual)	Income and expenditure surveys	Takes several years to detect meaningful trends; difficult to interpret why greater equality/inequality has occurred
Child mortality rate (3-5 years)	Community-based surveys, clinic/hospital data	Same comments as above for community-based surveys and clinic/hospital data; clinic data better for tracking trends, not absolute levels
Total fertility rate (3-5 years)	National demographic and health surveys and censuses	Censuses are best source but expensive and only done every 10 years (use as baseline); nationally representative surveys provide a good indication
Access to clean water (annual)	Community-based surveys, secondary data from ministries of health or rural water on location of well infrastructure, NGO and project records	Difficult to consistently define "access to clean water" in operational terms; access may vary on a seasonal basis as water sources change
Maternal mortality rate (3-5 years)	Community-based surveys, clinic/hospital data	Clinic data easier to collect but may be seriously biased because most maternal mortality attributable to delivery outside of the hospital
Adult literacy rate (3-5 years)	Censuses, national surveys with a demographic component	Same comments as for total fertility rate above; sample sizes should be large enough to permit for statistically significant regional breakdowns, as well as gender disaggregation

* Most desirable frequency of collection, based on feasibility, cost-effectiveness, and expectations of variability over time.

findings into this process would constitute a net improvement over how policy and investment decisions are often made.

Table 10 presents a prototype national poverty monitoring and analysis system. It is not intended to be a blueprint for every African country. Rather, its purpose is to underline a few general principles of what a national system should look like. A national system should have a mix of approaches to provide policy makers with sufficient timely and accurate analysis and monitoring information so that they can make more informed decisions; the approaches need to be flexible enough to be able to respond to information needs on short notice, as well as enable policy makers to develop a deeper understanding of the causes of poverty and of the most appropriate strategies for reducing poverty.

It is also important to fully come to grips with some unpleasant realities: in nearly every African country where large numbers of surveys have been carried out, there is a massive backlog of under-utilized data.

In countries with the most institutional capacity to carry out nationwide surveys, proper administration of data collection in the field does not present major problems. On occasion, there are problems in data processing, but, on average, the micro-computer revolution has greatly reduced the frequency of bottlenecks at this stage. However, timely analysis and getting the most out of the data remain a major stumbling block for these types of surveys. Unfortunately, this problem will not go away anytime soon. Those who design systems for monitoring and analyzing poverty must adapt to it by lessening over-reliance on frequent large-scale national surveys.⁴⁴ Instead *periodic national surveys should be done in combination with more rapid turnaround, regular monitoring surveys and thematic or ad hoc subnational studies and surveys on a limited number of priority poverty-related policy issues.*

Whether a particular survey methodology is more useful for monitoring versus analysis is a function of cost, timeliness, and data richness. Methodologies that yield rich statistical data for explaining the causes of poverty and how the poor respond (coping strategies) can be used for analysis and establishing baselines. Yet if more than a one year turnaround is required from fieldwork to dissemination of results, such methods have little use for monitoring at the national level.

Under the prototype system in Table 10, national surveys such as LSMS, IS, PS, or DHS would be done once every 3-5 years. Implementation of LSMS or IS should only be attempted in countries with solid NSO survey implementation capacity.⁴⁵ For countries with more modest capacity, a PS is the best option, initially. Once capacity is built up, an LSMS or IS may be attempted. It should be noted that the authors of this report believe that the SDA-recommended approach of an annual nationwide survey (an IS every 4-5 years with a PS in each in-between year) is too ambitious, even in the best-endowed countries. Past experience provides overwhelming evidence that the data overload will be too great. Funds for in-between years could best be used for a combination of quick turnaround monitoring surveys

⁴⁴ As mentioned in Chapter Two, the boundary between monitoring and analysis is arbitrary. Here, analysis is defined as empirically based work that seeks to understand causes of poverty, including relationships between key variables that explain why some people are poor while others are better off. Monitoring tracks the evolution of poverty status (based on both income and nonincome indicators) without necessarily pursuing detailed understanding about why change occurs, or how causal variables interact to affect change.

⁴⁵ Mention of LSMS in this chapter refers to the prototypical LSMS of the Côte d'Ivoire or Ghana variety. Among other things, these involve multiple visits to the same household; year-round data collection (for a single round); a large, multitopic questionnaire; and extensive data quality controls.

TABLE 10

**SURVEY CONTENT AND TIMING OF A PROTOTYPICAL NATIONAL
POVERTY MONITORING AND ANALYSIS SYSTEM**

Survey Method (& Frequency)	Implementors for:		Uses
	Data Collection	Analysis	
Secondary Data (Regular)	Sectoral ministries, NSO, NGOs	Sectoral ministries, NSO, NGOs, EWS	<ul style="list-style-type: none"> ● Monitor indicators for data typically collected by governments (gross and net school enrollment, clinic data on malnutrition, disease incidence, prices and wages, and so on)
Thematic quantitative & qualitative studies (1-2 per year as needed)	Sectoral ministries, consultants, NGOs	Sectoral ministries, consultants, NGOs	<ul style="list-style-type: none"> ● Analysis of key policy issues needing timely and detailed clarification; knowledge, attitudes, and practices (KAP studies) of key factors influencing poverty (attitudes towards female education, and primary health care practices, for example) ● Identifying indicators that communities judge relevant to poverty and well-being ● Filling of monitoring and analysis gaps not covered using other methods, or where large national surveys raise questions needing deeper examination ● Monitor KAP changes, with DHS, LSMS, IS, or previous KAP studies as baselines
SSS* (6 months)	PMCU,* NSO, or EWS	PMCU, district officials, EWS	<ul style="list-style-type: none"> ● Monitor poverty programs such as social funds, health and nutrition indicators, and policy-related questions
LSMS/IS (4-5 years) <u>OR</u> PS (3-5 years)	NSO	NSO, sectoral ministries, universities, consultants, World Bank staff	<ul style="list-style-type: none"> ● <u>Use LSMS/IS only in countries with strong data collection and analysis capacity</u> ● <u>Use PS in countries with weak survey implementation capacity</u> or in countries where a lighter survey is judged desirable for other reasons ● Analysis of income and expenditure patterns and causal relationships related to economics, employment, demography, health, nutrition, education and infrastructure availability, and poverty profile composition ● Establish poverty line estimates ● Establish baselines for selected key indicators
DHS (5 years)	NSO	NSO, health ministries, universities, consultants	<ul style="list-style-type: none"> ● Analysis of causal relationships related to demography, health, nutrition, and family planning ● Establish baselines for key health indicators

* PMCU - Poverty Monitoring Coordination Unit.

* Other, similar types of light monitoring surveys with quick turnaround could also be used.

(like SSS or some variation thereof), and a series of thematic studies in specific policy areas believed to be of high priority to reach a better understanding of poverty and its evolution.

Even if national surveys are limited to a PS every few years, these can yield a wealth of information for understanding broad patterns of poverty in a country, and provide an overall context for more narrowly targeted thematic studies and surveys. For countries with especially poor communications and transport infrastructure (as well as security problems), a PS carried out in the capital and one or two secondary cities may be the only feasible quantitative survey option. Here again, if these are supplemented by thematic studies (qualitative and small-scale quantitative) carried out under government or NGO auspices, practical policy and project options can result for poverty reduction. It is also fairly easy to tailor SSS implementation strategies to data collection and analysis capacities of individual countries. The same is also true for RAM, PRA, and IASM, as these do not require large sample frames or armies of closely supervised enumerators. In any event, in designing realistic national poverty monitoring systems, it is important to seek honest answers to the questions identified in Box 19.

Instead of annual time series, analysts should compare point estimates several years apart for discerning nationwide trends in poverty reduction and improvements in welfare.

Although this may seem a very distant second-best solution to some, the track record to date indicates that either longitudinal analysis has been late in being generated (for the Côte d'Ivoire LSMS, longitudinal analysis only began appearing three years after completion of the last round), or had not yet appeared (the third round database was not yet ready for analysis as of the last quarter of 1994). Instead of annual nationwide surveys, more modest monitoring efforts and thematic studies can be extremely useful for identifying trends in poverty and welfare.

Whether an LSMS, IS, or PS, analysis centers on identification of income and expenditure patterns, and on causal relationships related to economics, employment, demography, health, nutrition, education, and infrastructure availability, as well as on periodic composition of poverty profiles and estimates of the poverty line (either relative or absolute). Finally, these methodologies could be used for establishment of baselines for selected key indicators that could then be monitored with regular surveys, thematic studies, and reliance on ministry-generated secondary data (enrollment rates, access to health services, incidence of disease).

For poverty analysis related to health and demography, analysts could also avail themselves of periodic DHS surveys. Because of expense and the volume of data generated, USAID recommends that these be carried out only once every five years. As with other types of nationwide surveys, monitoring of baseline indicators generated by DHS could be accomplished with semi-annual small surveys and secondary data from Ministries of Health. Trend analysis would use a combination of point estimates every five years from the DHS and data from the regular monitoring surveys and secondary data sources.

Greater efforts need to be made to seek the input of local populations in the identification of indicators of poverty and well-being.

When brought into the process through identification of coping strategies, the poor themselves can identify indicators that can then be tracked far more cost-effectively than, say, changes in income and expenditure as measured through traditional household surveys. For example, light surveys can easily monitor coping strategies such as number of meals eaten per day, increases in visits to traditional healers (versus local clinic or hospital) when sick, and selling seasonal labor during peak agricultural periods. Although participatory poverty assessments carried out in Zambia, Ghana, and a few other countries

provide a glimpse of how this might work, cost-effective indicators based on local perceptions have not yet been incorporated into poverty monitoring systems in any appreciable way.

Because of the richness of data generated across sectors by LSMS, IS, and PS (and within the health sector for DHS), concerted efforts need to be made to bring sectoral ministries and local universities into the analysis process.

In some countries, this process will entail overcoming NSO resistance to sharing data, as well as perhaps providing technical assistance in ministries, universities, and local think tanks to ensure that research and analysis programs are adequately coordinated and sustained. Unfortunately, even if NSOs are willing to share data, there is often a paucity of local analysts either willing or able to mount a research program (because they are often overcommitted on relatively lucrative short-term consultancies).

For regular monitoring of poverty status and selected policy issues, sentinel site surveillance or a variation thereof, can be used.

Although relatively new to Africa, the record on timeliness so far has been impressive, with results generally available within six months. SSS could be used to monitor access to poverty programs such as social funds, selected health and nutrition indicators, and policy-related questions where policy makers want to get a quick sense of recent developments (but not detailed analysis). SSS can also be used for building analytic and planning capacity for national and regional civil servants. Regarding monitoring of indicators, however, one must be aware of the potential for test group bias if a panel survey approach is used. This will limit reliability for extrapolating results to the general population. If panels are done away with, and random sampling occurs within enumeration areas, then extrapolation can occur (as long as enumeration areas themselves adequately reflect socioeconomic characteristics of the general population).⁴⁶ This represents a tradeoff between monitoring indicators with an unbiased sample and the desire to use SSS as a participatory device for populations to provide continuous feedback to their local officials.

In general, wider use of qualitative methods is merited. To ensure that they are used appropriately, there must be greater appreciation of their strengths and weaknesses relative to qualitative methods, and relative to each other.

Relative to quantitative methods, their most important strengths include timeliness, low cost, flexibility, richness of data, and greater possibilities of local ownership.

As for tradeoffs between qualitative methodologies, rapid assessment and participatory assessment can deliver interdisciplinary information and some quantified data whereas Beneficiary Assessment deals only with the sociological and less quantifiable aspects of a problem. All three can produce representative ("representative" in the purposive, not statistical sense) information faster and at a lower cost than quantitative methods and, above all, they can be employed in situations in which little prior information is available. However, participatory approaches and BA may take longer than a normal RAM, the former because it takes time and involvement to generate a sense of ownership or to elicit information in circumstances where the informants and not the researchers are in control of meetings, the latter because participant-observation and exploration of social meanings and motives are time-consuming. Also because BA does not aim at interdisciplinary research and extensive quantification, it must depend heavily on the

⁴⁶ In one sense, this amounts to abandonment of the sentinel sites concept. However, the SSS principles of a short, streamlined, and flexible questionnaire, rapid turnaround, and training of local officials can be retained.

more time-consuming data-checking stratagems of triangulation and so forth. Participatory assessment can deliver multidisciplinary information with a special emphasis on minority or disadvantaged groups, including the poor, and generates a sense of ownership, but may take somewhat longer and cost more than RAM because of the need to work extensively with participants.

The choice of qualitative methodology also depends on the purpose for which data are being gathered. If very little information is available from previous research, then RAM is able to generate basic information; with more time and resources invested, the information RAM gathers will become progressively more representative, quantified, and rich. If the desire is to generate active participation and to empower the beneficiary population or to involve them in monitoring changes in poverty, then a participatory method is best. If the need is to set up light monitoring or limited interventions, then hybrid methods such as SSS and KAP are best.

Thematic quantitative and qualitative studies are appropriate for analysis of key policy issues needing timely clarification, the filling of analysis gaps not covered by other methods, or for deeper analysis of questions raised by large national surveys.

In addition, ad hoc rapid surveys can be used to analyze poverty-related issues where sociocultural attitudes and beliefs are thought to be especially important. Large-scale quantitative surveys tend to only scratch the surface here. For example, KAP surveys, which use a combination of quantitative and qualitative techniques, can be employed to gain a better appreciation of key factors that influence the decision of girls and their parents to enroll in and leave school. Such studies can also be used to assess local attitudes and practices related to preventive and curative health care.

Sectoral Ministries such as Health, Education, or Agriculture can commission such studies, which should have a turnaround of 4-6 months. Local and expatriate consultants would be contracted to carry them out. In many cases, it is possible to use master samples from recent national censuses as a basis for purposive choice of enumeration areas, and random sampling within these. This can be done for both quantitative and qualitative surveys, allaying suspicions that results are merely anecdotal.

Some types of thematic studies and surveys can also be used for monitoring change, although care must be taken to ensure rough comparability with previous baseline data. As much as possible, a combination of qualitative and quantitative methods should be used so that sufficient reality-checking occurs, as well as building justification for the generalizability of findings.

Gender disaggregation is critical for obtaining an accurate picture of the evolution of poverty and welfare.

Because they generally have less access to capital, technology, and services than men, women are disproportionately among the ranks of the poor. In times of crisis, they are under special financial, physical, and psychological stress because their most important asset, labor, is stretched to the limit and beyond. Reaching a fuller understanding of their resource constraints and coping mechanisms is a prerequisite to identifying strategies with the potential for reducing poverty among all vulnerable groups. Quantitative household data for gender-disaggregated analysis are generally not lacking: efforts to analyze these data and monitor the evolution of women's welfare need to be reenforced. Quantitative analysis should be supplemented by qualitative work to gain a greater appreciation of the gender-related dynamics of intrahousehold decision making and women's coping strategies in times of stress (to the extent that they are different than those of men).

Secondary data can be used for monitoring indicators where governments collect the necessary data on a regular basis.

As mentioned in Chapter Three, government agencies typically tabulate data on a number of health and education indicators, as well as on prices and wages. Donors can continue to support improvements in these areas, as well as assist in improved coordination and elimination of duplication of effort in data collection and reporting.

Related to secondary data, this report seconds the recommendation of the recent Institute of Development Studies report (IDS, 1994) that poverty assessments should attempt to assemble all poverty-related documents and databases, and prepare a literature review as a prelude to launching the assessment. Whether in the context of a poverty assessment, *assembling and synthesizing the available national and subnational literature on poverty should be a key role of any national poverty monitoring unit*. In most African countries, a multitude of potentially useful documents are ignored. As a result, subsequent studies and surveys are not as clearly focused as they should be. The common plea that "We don't know anything about . . ." usually reflects a failure to adequately examine what has already been written, to sufficiently analyze data already collected, or to simply assume that any analyses that are not national in scope are without value. Preparing such literature reviews costs little, and may result in large payoffs in terms of garnering useful "new" information and making future survey efforts more cost-effective.

In conclusion, it is necessary to point out that the national poverty monitoring and analysis system proposed in this section is generally less ambitious than what is currently occurring in many African countries. The majority of African countries should have the ability to carry out some form of the prototype system outlined in Table 10. We are only proposing a system with a higher probability that data collected will actually be analyzed in a timely fashion. This will be achieved by shifting the current balance away from frequent large-scale national surveys, and toward frequent monitoring surveys and focused qualitative and quantitative studies on specific themes — recognizing the potential complementarities that exist between approaches. In addition, a more rational and cost-effective division of labor is needed between NSOs and sectoral analysts in ministries, local universities and research institutes.

ADDITIONAL CONCERNS

In those countries where NSOs have a history of not releasing data to outside analysts (both within and outside of the country), donors should seriously reconsider continued support to them.

As mentioned above, performance in Africa pertaining to full and efficient use of survey data is generally abysmal. This issue is not unique to surveys related to poverty analysis, nor is it entirely the fault of NSOs. Overly ambitious or poorly conceived survey design, knee-jerk assumptions that no data or analysis exist already so therefore still another survey is necessary, donor tendencies to pursue their own agendas and stretch NSO resources to the limit with ad hoc surveys, and unwillingness of non-NSO survey implementors to share data have also contributed. In short, there is plenty of blame to go around. Nevertheless, NSOs are the locus of most national surveys, financial and human resources are increasingly scarce for data collection activities, and it is legitimate for governments and donors to allocate funds to those NSOs most responsive to users.

Those NSOs that hold data very tightly justify their stance in several ways. Some claim that they wish to guard the confidentiality of respondents and are legally bound to do so. This argument is flimsy

because names and specific addresses of respondents can easily be removed from datafiles. Another reason often cited is that some NSO officials believe that they alone have the expertise to perform proper analysis and to avoid abusing the data or drawing inappropriate conclusions. Still another reason — sometimes stated, sometimes not — is that NSOs are understandably reluctant to release politically sensitive data because their superiors could get them into trouble, fire them, or worse. In the 1970s, several Malawian NSO officials were jailed for distributing information that the President felt was inappropriate. Box 20, excerpted from a newspaper editorial written during the national election campaign in the first half of 1994, eloquently comments on this unfortunate phenomenon, which is not unique to Malawi. Such actions, or the implicit threat of such actions, produce a chilling effect on collaboration with local and foreign researchers, other ministries, and donor agencies. In Kenya, publicizing regional or ethnic disparities is an extremely sensitive issue, and the CBS wants to be sure that it has control over how analysis is presented. A final reason — never stated — is that there are economic rents to be gained from spoonfeeding data out to researchers and donors rather than making the data readily available.

BOX 20

THE POLITICS OF POVERTY IN MALAWI

So we are poor, after all. What a shame, to be so poor and not even know it all this time. . . Why did it take the advent of multipartyism for us to start discussing our poverty? The reason is simple: it was taboo to talk about our poverty under Kamuzu's [former President Hastings Banda] rule. The dictator invented a myth to which all had to subscribe. Statistics on literacy and other patterns could not be published. Ministers were dismissed for attempting to tell the truth about the country's economy, and it seems we reached a point when those surrounding the dictator began to invent fictions for their own survival and to reinforce the central myth of the country's well-being.

Quoted from: The Nation. "Here Is The News: We Are Poor." Lilongwe, Malawi. March 10, 1994.

It should be made clear in international fora that none of these reasons are good enough any more. If governments are responsible for a chilling effect that limits the free flow of information for political reasons, this is as good a reason as any to cut back on data collection and analysis activities. Chances are slim that such governments will use analysis to alter policies. The bottom line is that the central role of NSOs is to collect and disseminate data and information. If a government is not serious about the dissemination function, there are better places for donors to invest than in that NSO.

Incentives need to be strengthened for fuller documentation of databases and for undertaking analysis.

Financial incentives in NSOs and ministries that typically undertake survey work are strong at the data collection stage because this employs lots of people and results in large per diem expenditures for fieldwork. Data processing also generates a fair amount of employment. The incentive structure breaks down beyond this, because data documentation and analysis are painstaking tasks, and remuneration is low relative to embarking on another survey. Sales of fully documented databases to interested researchers and donors (other than the one that paid for survey implementation) need to be encouraged. This would also generate urgently needed operating funds and defray some overhead.

NSO staff have little incentive to fully analyze the databases they generate — nor does it make sense for them to do so. The types of databases generated in poverty-related surveys contain information on many different topics — agriculture, health, education, demography and population, labor markets, and gender — to name a few. In-depth analysis in these areas should be carried out by experts in these fields, with, to be sure, the active collaboration of the statisticians who generated the data and have the best appreciation for its limitations. Interested donors can initiate collaborative research and analysis programs with partnerships between local and foreign researchers from universities, think tanks, and consulting companies to ensure fuller use of data. In countries where governments have demonstrated a willingness to confront poverty issues, donors should also sponsor annual national conferences where poverty analysis papers by local researchers are presented, and participants from a wide cross-section of society are invited. This is one strategy for stimulating demand for poverty analysis, thus providing impetus for fuller use of available databases.

Heightened interest in poverty monitoring and analysis raises several ethical issues that donors and governments need to be concerned about.

In those African countries where lots of field studies have been carried out, "respondent fatigue" is rife. Although researchers in the United States and Europe usually have to follow strict ethical guidelines when their work involves human subjects (clearly stating what your research project is about, not being overly intrusive, and so on), no such restrictions apply in African countries. Instead, African governments generally require their populations to participate in surveys, no matter how time-consuming, inconvenient, or intrusive a survey might be. In such a setting, the poor are especially vulnerable. Sitting and responding to a lengthy questionnaire during the height of planting or harvesting season can result in lost income — something the poor can ill afford. This is an important reason to keep questionnaires streamlined and interview sessions short (it will also improve data quality).

Special caution needs to be exercised with participatory approaches for several reasons. First, if people expend time participating in such exercises and are quizzed about ways to make their lives better, this raises expectations. If participation brings no tangible rewards, this can lead to anger, frustration, and distrust. Ultimately, it may complicate future efforts at development. Narayan (1994) suggests that such methods may be inappropriate during the early stages of project identification because benefits may not be forthcoming for several years; this could easily apply to policy issues too. Second, while empowerment is a noble goal, there may be situations where local (inequitable) power structures are so entrenched that bringing them out into the open does more harm than good.

In the end, respondents need to be treated with courtesy, respect, and sensitivity. Supervisors need to create the right atmosphere through adequate training of enumerators and properly designed survey instruments. Only in this fashion will poverty-focussed surveys serve the objective for which they are ultimately intended — betterment of the living conditions of the poor.

BIBLIOGRAPHY

- Agar, M. 1980. *The Professional Stranger*. London, Academic Press.
- Ainsworth, Martha, and Jacques van der Gaag. 1988. "Guidelines for Adapting the LSMS Living Standards Questionnaires to Local Conditions." Living Standards Measurement Study Working paper No.34. The World Bank. Washington, D.C., May.
- Appleton, S. (draft). 1994. "Changes in poverty in Uganda 1989-92: Comparing Households Surveys Over Time." SDA, The World Bank, Washington, D.C. July.
- Asian Development Bank. 1991. *Guidelines for Social Analysis of Development Projects: Operational Summary*. Manila, Philippines. June.
- Bamberger, Michael. 1988. "The Role of Community Participation in Development Planning and Project Management." Policy Seminar Report No. 13. Prepared for the Economic Development Institute. Washington, D.C.
- Babu, Suresh, and G.B. Mthindi. 1994. "Household Food Security and Nutrition Monitoring: The Malawi Approach to Development Planning and Policy Interventions." *Food Policy* 19 (3): pp. 272-284. June.
- Berg, Elliot, Graeme Hunter, Tom Lenaghan, and Malaika Riley. 1994. "Poverty and Structural Adjustment in the 1980s: Trends in Welfare Indicators in Latin America and Africa." Development Alternatives, Inc. September.
- Boateng, E. Oti, Kodwo Ewusi, Ravi Kanbur, and Andrew McKay. 1990. "A poverty Profile for Ghana, 1987-88. SDA working paper No. 5. The World Bank. Washington, D.C.
- Booth D. et al. 1993. "Social, Economic, and Cultural Change in Contemporary Tanzania: A people-oriented focus." Swedish International Development Authority, Stockholm, Sweden.
- von Braun, J., and D. Puetz. 1993. *Data Needs for Food Policy in Developing Countries: New Directions for Household Surveys*, IFPRI, Washington, D.C.
- Casley, D.J., and D.A. Lury. 1981. *Data Collection in Developing Countries*. Oxford: Oxford University Press.
- Chambers, Robert. 1992. "Rapid Appraisal: Rapid, Relaxed, and Participatory." Institute of Development Studies Discussion Paper 311. Brighton, England.
- _____. 1994. "Poverty and Livelihoods: Whose Reality Counts?" Prepared for the Stockholm Roundtable on Global Change. Institute of Development Studies. July.
- _____. 1985. *Rural Development: Putting the Last First*. London: Longman.
- _____. 1989. "Editorial Introduction: Vulnerability, Coping, and Policy." *IDS Bulletin* 20(2): 1-7.

- CIET International. 1994. "Social Conditions for Health in Serbia and Montenegro: A Community-Based Intersectoral Appraisal." May.
- Delaine, Ghislaine et al. 1992. "The Social Dimensions of Adjustment Integrated Survey: A Survey to Measure Poverty and Understand the Effects of Policy Change on Households." SDA working paper No. 14. Surveys and Statistics. The World Bank. Washington, D.C., May.
- Macro International. 1990. "Methodological Reports 1: An Assessment of DHS-I Data Quality." Columbia, MD.
- _____. 1994. "Methodological Reports 2: An Assessment of the Quality of Health Data in DHS-I Surveys." Calverton, MD.
- _____. 1990. "Interviewer's Manual for use with Model "B" Questionnaire for low Contraceptive Prevalence Countries." Columbia, MD, December.
- _____. 1990. "Model "A" Questionnaire with Commentary for High Contraceptive Prevalence Countries." Columbia, MD, December.
- _____. 1991. "Supervisor's and Editor's Manual for use with Model "A" and "B" Questionnaires." Columbia, MD, July.
- Dohrenwend and Richardson. 1964. "A Use for Leading Questions in Research Interviewing." *Human Organization*, 23: pp. 76-66, cited in Agar, op. cit.
- Downing, Thomas. 1991. "Assessing Socioeconomic Vulnerability to Famine: Frameworks, Concepts, and Applications." FEWS/USAID Working Paper. January.
- FAO. *Food Supply Situation and Crop Prospects in Sub-Saharan Africa: Special Report*. Selected issues. Rome.
- FEWS Project. 1993. "Vulnerability Assessment." Prepared for USAID. Arlington, VA. June.
- Field, John Osgood. 1993. *The Challenge of Famine*. West Hartford: Kumarian.
- Fisher, Gordon M. 1992. "The Development and History of the Poverty Thresholds." *Social Security Bulletin*. Vol. 55, No.4. Winter.
- Gillespie, Nancy. 1990. "Selected World Bank Poverty Studies: A Summary of Approaches, Coverage, and Findings." World Bank Working Paper no. 552. December.
- Glaser, B., and A. Strauss. 1967. *The Discovery of Grounded Theory*, Chicago, Il., Aldine.
- Grootaert, Christiann. 1993. "How Useful Are Integrated Household Survey Data for Policy-Oriented Analyses of Poverty?: Lessons from the Côte d'Ivoire Living Standards Survey." Policy Research Working Paper No. 1079. The World Bank. Washington, D.C., January.

- Grootaert, Christiann, and Timothy Marchant. 1991. "The Social Dimensions of Adjustment Priority Survey: An Instrument for the Rapid Identification and Monitoring of Policy Target Groups." SDA working paper No. 12. Surveys and Statistics. The World Bank. Washington, D.C. February.
- Grosh, M., and P. Glewwe. 1992. "LSMS Surveys: A brief history and proposals for the future." (Draft). Policy Research Department, Poverty and Human Resources Division, The World Bank. Washington, D.C.
- _____. 1993. "An Introduction to the World Bank's Living Standards Measurement Study Household Surveys." Policy Research Department, Poverty and Human Resources Division, The World Bank. Washington, D.C.
- Johnson, Glenn L. 1986. *Research Methodology for Economists: Philosophy and Practice*. MacMillan Publishing Co. New York. 1986.
- Government of Kenya, Central Bureau of Statistics. 1993. "National Statistical Needs Assessment Project 1992: Final Report," Nairobi, April.
- Government of Kenya. 1972. "Laws of Kenya — The Statistics Act, Chapter 112," July 1961. Government Printing Office, Nairobi (revised).
- Hyde, Karin, and Esme Kadzamira. 1994. "Girls' Attainment in Basic Literacy and Education Project: Knowledge, Attitudes, and Practices Survey: Final Report." University of Malawi, Centre for Social Research. Zomba, Malawi. August.
- Institute of Development Studies. 1994. "Poverty Assessment and Public Expenditure: A Study for the SPA Working Group on Poverty and Social Policy." University of Sussex, Brighton.
- Knox, David, et al. 1994. "The Quest for Quality: Report of the Task Force on Project Quality for the African Development Bank. Abidjan. April.
- Kumar, Krishna, ed. 1993. "Rapid Appraisal Methods." World Bank Regional and Sectoral Studies Series.
- Ledogar, R.J., and N. Andersson. 1993. "Impact Estimation Through Sentinel Community Surveillance: An affordable epidemiological approach." Third World Planning Review. August.
- Lele, Uma, and Kofi Adu-Nyako. 1991. *An Integrated Approach of Strategies for Poverty Alleviation: A Paramount Priority for Africa*. 1991 Annual Meetings Symposium of the African Development Bank. Abidjan. May.
- Lipton, Michael, and Martin Ravallion. 1993. "Poverty and Policy." World Bank WPS no. 1130. April.
- Lunogelo, H.B., and Henry Gordon. 1992. "Monitoring and Assessing the Effects of Cereals Sector Reforms on Vulnerable Groups in Kenya." Prepared for the Ministry of Planning and National Development, Government of Kenya. Nairobi. July.

- Marchant, T. 1992. "Assessment of Socioeconomic Statistical Database in Chad, and Proposals for Strengthening Institutional Capabilities for Poverty Monitoring and Analysis." (draft) SDA, The World Bank, Washington, D.C.
- May, Charles. 1992. "Price Data in a Famine Early Warning System." FEWS/USAID Working Paper 2.7. September.
- Muhari, Pradip, and Shea Rutstein. 1994. "Socioeconomic, Demographic, and Health Indicators for Sub-National Areas." DHS Comparative Studies 9. Macro International. Calverton, Maryland. June.
- Narayan, Deepa. 1994. "Towards Participatory Data Collection." The World Bank. June.
- _____. 1992. "Participatory Poverty Assessment: Issues, Methods and Replication." ENVSP, World Bank.
- The Nation. 1994. "Here Is The News: We Are Poor." Lilongwe, Malawi. March 10.
- Norton, Andrew, and Thomas Stephens. 1994. "Participation in Country Poverty Assessments: A Review of World Bank Experience." World Bank. July.
- Owen, D. 1994. *A Review of Techniques for Systematic Client Consultation*, World Bank.
- Psacharopoulos, George, Samuel Morley, Ariel Fiszbein, Haeduck Lee, and Bill Wood. 1993. "Poverty and Income Distribution in Latin America: The Story of the 1980s." The World Bank. June.
- Puetz, D., and Slack, A. 1993. "Focussing Small-Scale Surveys on Specific Food Policy Issues: IFPRI's Experiences." In: von Braun, J. and Puetz, D. *Data Needs for Food Policy in Developing Countries: New Directions for Household Surveys*, IFPRI, Washington, D.C.
- Ravallion, Martin, Gaurav Datt, Dominique van de Walle, and Elaine Chan. 1991. "Quantifying the Magnitude and Severity of Absolute Poverty in the Developing World in the Mid-1980s." World Bank Working Paper no. 587. 1991.
- Ravallion, Martin. 1994. "Poverty Comparisons." Harwood Academic Publishers. Chur, Switzerland.
- Riely, Frank. 1993. "Vulnerability Analysis in the FEWS Project." FEWS/USAID Project. Arlington, VA. June.
-
- Roe, Gillian. 1992a. "The Plight of the Urban Poor in Malawi: Results from a Baseline Survey." Centre for Social Research, University of Malawi. February.
- _____. 1992b. "The Hidden Economy: An Exploration of the Income Generation and Survival Strategies of the Urban Poor." Centre for Social Research, University of Malawi. July.
- Salmen, Lawrence. 1992a. "Reducing Poverty: Institutional Perspectives." The World Bank. Poverty and Social Policy Series Paper No. 1, Program Design and Implementation.
- _____. 1992b. "Beneficiary Assessment: An Approach Described." Working Paper No. 1. Prepared for the World Bank. Washington, D.C. February.

- _____. 1987. *Listen to the People*. The World Bank. Washington, D.C.
- Scrimshaw, N.S., and G.R. Gleason, eds. 1992. "Rapid Assessment Procedures: Qualitative Methodologies for Planning and Evaluation of Health Related Programmes." International Nutrition Foundation for Developing Countries. Boston, MA.
- Sen, Amartya. 1987. *The Standard of Living*. Cambridge. Cambridge University Press.
- Sherk, D., D. Kingsbury, P. Boyle, and I. Girsback. 1992. *Poverty Alleviation in Africa: a Strategy and Action Programme for the African Development Bank*, prepared for the African Development Bank by Development Alternatives, Inc. July.
- Social Dimensions of Adjustment Steering Committee. 1993. *The Social Dimensions of Adjustment Program: A General Assessment*. Washington, D.C.
- Thanh Le. 1993. "Sampling Practice in the Demographic and Health Surveys." Macro International. Calverton, Maryland.
- Wappenhans, W. et al. 1992. "Effective Implementation: Key to Development Impact." Report of the World Bank's Portfolio Management Task Force. Washington.
- World Bank. 1994. *A Review of World Bank Analysis, Strategy and Practices to Assist African Governments in the Reduction of Poverty*. Washington, D.C.
- _____. 1994. *Progress Report on Bank Efforts to Alleviate Poverty in Africa*. Washington, D.C.
- _____. 1994. *Poverty Indicators for Selected African Countries*. Prepared by the Human Resources Division of the Africa Technical Department. Washington, D.C. September.
- _____. 1994. "Zambia Poverty Assessment." Volume 4: *Participatory Poverty Assessment*. Washington, D.C. May.
- _____. 1994. *Report on the Status of Poverty in Africa: The Many Faces of Poverty in Africa*. Washington, D.C.: World Bank. August.
- _____. 1993. "Paradigm Postponed: Gender and Economic Adjustment in Sub-Saharan Africa." Washington, D.C. August.
- _____. 1993. *World Development Report 1993*. New York: Oxford University Press.
- _____. 1992. *Poverty Reduction Handbook*. Washington, D.C.
- _____. 1992. "Participatory Development and the World Bank." World Bank Discussion Paper No. 183. Washington, D.C.
- World Bank et al. 1991. "Socio-Economic Development Funds: A Guideline for Design and Implementation." Washington, D.C. February.
- World Bank. 1991. *Putting People First*. Washington, D.C. August.

- _____. 1990. "Structural Adjustment and Poverty: A Conceptual, Empirical and Policy Framework." SDA Unit, Africa Region. Washington, D.C. February.
- _____. 1989. "Women in Pakistan: An Economic and Social Strategy." A World Bank Country Study. Washington, D.C. December.
- _____. 1989. "The World Bank Atlas 1989." The World Bank. Washington, D.C.
- _____. Annual. *World Tables*. Baltimore: Johns Hopkins University Press.
- _____. Annual. *Social Indicators of Development*. Baltimore: Johns Hopkins University Press.
- World Bank and UNDP. Annual. *African Development Indicators*. Washington, D.C.: World Bank.
- UNDP. 1994. *Human Development Report*. New York: Oxford University Press.
- UNICEF. 1994. "Uganda: Building capacities for district and community-based intersectoral evaluation, planning and NPA goal monitoring- sentinel community surveillance, cycle one." January.
- UNICEF. 1994. *The State of the World's Children*. Oxfordshire, U.K.: Oxford University Press.
- UNSO. 1981. "The National Household Survey Capability Program: Prospectus." New York.
- Government of Zimbabwe Inter-Ministerial Committee on SDA Monitoring. 1994. "Report of the Fourth Round: Sentinel Surveillance for SDA Monitoring." Ministry of Public Service Labour and Social Welfare. Harare. June.
- _____. 1992. "Findings and Recommendations from the First Round of Sentinel Surveillance for SDA Monitoring." Ministry of Labour, Manpower Planning and Social Welfare. Harare. April.

A1
96

ANNEX A

EXPLANATIONS OF COMMONLY USED SOCIAL INDICATORS

The purpose of this annex is to more fully explain the significance of the most commonly used social indicators that appear in Table 3 in Chapter Two.

HEALTH STATUS

Indicators of Survival

Life Expectancy at Birth

Life expectancy is the number of years newborn children would live if subject to the mortality risks prevailing for the cross-section of population at the time of their birth. Infant mortality, as the primary source of premature death, heavily influences life expectancy at birth. A better indicator of premature death after childhood is life expectancy at age 5, although this indicator is rarely available. The data sets are a mix of observations, interpolations, and extrapolations. In addition it is heavily correlated with other indicators, such as the child mortality rate. Data is available in all of the major statistical yearbooks.

Infant Mortality Rate

The infant mortality rate is the number of deaths of infants under one year of age per 1000 live births. This measure is sensitive to local weaning practices: the earlier weaning occurs, the greater the probability that an infant will contract a water-borne diseases. Yearly data on infant mortality rates are found in virtually all international statistical yearbooks. The problem with the data lies in the great number of estimates mixed in with the actual observations.

Child Mortality Rate

The child mortality rate is the number of deaths of infants under five years of age per 1000 live births. UNICEF considers the under-five child mortality rate to be the best indicator of welfare. More sensitive than life expectancy to short-run conditions, and more culturally unbiased than the infant mortality rate,¹ CMR gives a good overview of the immediate status of child health. CMR data are collected routinely by national health ministries, and are compiled from reports sent by hospitals and clinics. Other sources include the World Bank World Development Report, Social Indicators of Development, and African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report. Caution should be applied when interpreting trends in CMR data, as much of it consists of extrapolations and interpolations.

Total Fertility Rate

Total fertility rate is defined as the number of children a woman would bear during her childbearing years according to the prevailing age-specific fertility rates. The inverse relationship between total fertility and women's and children's health, education, and income status has been

¹ Child mortality rates are less influenced by weaning practices.

convincingly demonstrated.² TFR data may be collected by national health ministries, or as part of periodic national censuses. They are also available in all of the major statistical yearbooks. The data are a mixture of observations, interpolations, and extrapolations and therefore sometimes unreliable.

Indicators of Nutrition

Food Production Per Capita

Food production per capita is the amount of food (weighted by value rather than calories) available per person. Food quantities are measured excluding animal feed, seeds for agriculture, and food lost in processing. This measure is affected by the amount of low-value, high-calorie carbohydrates relative to high-value, lower-calorie livestock products. Data is generally unreliable because of difficulties in estimating agricultural production. Source of data include the World Bank World Development Report, Social Indicators of Development, World Tables, and African Development Indicators, as well as the UNDP Human Development Report.

Calorie Availability/Intake Per Capita

Calorie intake differs from supply in that it is net of waste. Figures for calorie availability are usually derived from food availability, while calorie intake is usually derived from household surveys. Consequently, less information exists on actual intake. While calorie intake is a better indicator than calorie availability, neither provides an assessment of the nutritional value of food consumed. In addition, the figures given by most sources are national averages and do not indicate the distribution of calories. However, marginal changes over time are thought to reflect changes in calorie consumption of the poor, as the non-poor are already consuming adequate calories. Data is generally unreliable because of problems in measuring agricultural production. It is available in the World Bank African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report.

Child Malnutrition

Malnutrition is commonly defined as the percentage of children age 0-4 whose weight is less than 2 standard deviations from the reference weight for age, by World Health Organization (WHO) standards. Low weight for age may result from stunting (low height for age), which is a sign of chronic malnutrition, and from wasting (low weight for height), which is an indication of short-run deprivation. In several African countries, comparative data show that rates of malnutrition are on average 50 percent higher in rural than in urban areas. Nutritional data are collected normally by national health ministries, and are compiled from reports sent by health centers and clinic. Additional sources of statistics include the World Bank World Development Report, Social Indicators of Development, and African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report. Some data sources are repeat surveys of the national population or of particular strata or regions. Blends of survey and national agency data are also employed. In addition, methods of assessment vary, according to cut-off point and age group. Other common methods of assessment are less than 80 percent of the standard weight for age and the Gomez scale of malnutrition.

²World Bank, *World Development Report 1993: Investing in Health*, pp. 82-86.

Indicators of Protection from Disease

Access to Clean Water

Access to clean water is defined as the percentage of the population that are reasonably close to a safe water supply (including treated surface water or untreated but uncontaminated water such as that from springs, sanitary wells, and protected boreholes). For urban areas, this is defined as within 200 meters. For rural areas, it is defined as not having to spend a "disproportionate" amount of time fetching water. Access to clean water is a powerful determinant of health status. Many of the major, debilitating diseases in Africa are water-borne; diarrhea is a major killer of small children, but many parasites simply weaken adults, reducing their ability to provide for their families. Tracking the access of urban and rural populations to potable water can serve as a proxy for gauging both government attempts to provide basic health and sanitation infrastructure and the overall level of health of the population. It is important to track both rural and urban access, because rural access is usually less than half that in cities and towns. These data are collected by those agencies responsible for provision of water to the population. Often, different ministries are responsible for urban and rural areas, and the definition varies between rural and urban areas. Other sources of data include the World Bank Social Indicators of Development and African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report. There is no standard internationally accepted definition of what exactly constitutes "access," especially for rural areas: this will vary from country to country in terms of distance from a water source and carrying capacity of different types of water sources. Care must be taken to inquire about the exact definition and procedures used in estimating the indicator.

Child Vaccination Coverage

Immunization data reflects the number of infants under 12 months old who are immunized. They are a good indicator of short-run access to health services, as a new cohort is immunized every year. The poor, at the margin, are most affected by fluctuations in coverage rates. Four vaccinations are commonly tracked: polio, measles, tuberculosis, and DPT (diphtheria, pertussis and tetanus). These data are collected routinely by national health ministries, and are compiled from reports sent by health centers and clinics. Other sources include the World Bank Social Indicators of Development and African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report. Child vaccination coverage is generally among the most reliable indicators.

Indicators of Access to Health Care

Access to Health Facilities

Access to Health facilities is defined as the percentage of the population that can reach appropriate local health services by the local means of transport in no more than one hour. This indicator is not widely available. As facilities tend to be clustered in urban areas, separate figures for rural areas reveal a much lower level of access. Data is available in the World Bank Social Indicators of Development and African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report.

Population Per Physician

Population per physician is an indicator of access to health care. In the ratio of population to a physician, physicians are often defined as registered practitioners in the country. Some sources include

medical assistants whose medical training is less than that of qualified physicians, but who dispense similar medical services, including simple surgical operations. The definition of recognized medical practitioner varies, making comparisons difficult. Data is available in the World Bank World Development Report, Social Indicators of Development and African Development Indicators, and the UNDP Human Development Report.

Maternal Mortality Rate

An excellent indicator of women's access to basic health services, maternal mortality is defined as the number of deaths of women from childbirth per 100,000 live births. Unattended birth is the most frequent cause of maternal mortality. These data are collected by many national health ministries, and are compiled from reports sent by health centers and clinics. Other sources include the World Bank World Development Report, Social Indicators of Development, and African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report. Most national statistics are based on only hospital and clinic data, but some also incorporate deaths at home. In cases where official statistics are based on only clinic and hospital data, they should be supplemented by field surveys because most deaths at delivery occur at home, not at clinics. Therefore, reliance on clinic data alone leads to a serious downward estimation bias. Maternal mortality is also difficult to measure consistently and accurately across countries because deaths during childbirth are defined more loosely in some areas to include complications of pregnancy, the period after childbirth, or of abortion.

EDUCATIONAL STATUS

Indicators of Educational Access

-- Gross Primary Enrollment Ratios

The gross primary enrollment ratio is the total number of pupils enrolled at the primary level of education, regardless of age, expressed as a percentage of the population of the official school age of primary education in a given country. Figures may be more than 100 percent, as total enrollment includes students above and below the primary school age, as well as repeaters. Data is available in all major international statistical yearbooks.

Net Primary Enrollment Ratios

Net primary enrollment ratios give the proportion of primary school age children enrolled in primary school. This measure is preferable to gross enrollment ratios, as it excludes repeaters and overage pupils. Ratios are often given for both sexes. The importance of girls' education lies in its linkage to smaller, healthier families and increased productivity and income streams from greater confidence and job skills. National ministries of education and finance are usual sources of such data, but NGOs may also possess useful information. The data is available from the World Bank World Development Report, UNICEF's State of the World's Children, and the UNDP Human Development Report. The net primary enrollment rate is imperfect in that it does not account for actual attendance, quality of education, or academic achievement. Bearing this in mind, efforts should be made to supplement this indicator with student-teacher ratios, drop-out rates, number of students per school and classroom, and completion rates.

Indicators of Educational Achievement

Adult Literacy Rates

The adult literacy rate is the number of persons over 15 who can read and write a short, simple sentence on everyday life. It is an important indicator of a population's ability to reach beyond the local community and to learn from and influence the wider world. Among other benefits, literacy permits individuals and communities to take a more active role in local government and development projects. The importance of female literacy, often lagging behind that of males, is linked to lower infant mortality, better family nutrition, reduced fertility, and lower population growth rates. Female illiteracy also constrains female labor productivity and the concomitant full incorporation of women into the national workforce. These data may be obtained from national statistical agencies through censuses they have carried out. Sources of data include the World Bank World Development Report, Social Indicators of Development, and African Development Indicators, UNICEF's State of the World's Children, and the UNDP Human Development Report.

B-1

101

ANNEX B

GLOSSARY OF QUALITATIVE TECHNIQUES AND TERMINOLOGY

As mentioned in Chapter Three, qualitative methodologies employ a wide array of techniques and tools for data collection and organizing information. The purpose of this annex is to assist the reader in gaining a better appreciation of how techniques overlap between methodologies, as well as frequency of use when adapted to actual field conditions. The annex begins with a glossary of commonly used terms in qualitative analysis. A table is then presented that inventories which of these techniques are used by some of the various methodologies examined in the main body of the report.

Interviews

Informal: Open-ended questions are asked about specific topics, following a general outline and allowing additional subjects to be incorporated as they arise.

Formal: A fixed written set of questions on specific topics is asked. Possible responses may already have been determined and the answer is checked off or it may be recorded in detail; quantification is easier in the former case than the latter. Formal interviews or questionnaires allow comparisons with other studies where the same questions have been asked.

Semi-structured: Informal interviews with checklists but without questionnaires, which permit probing and following up on the unexpected, without the requirement that all the checklist points must be covered in any one interview. The order and precise wording of questions is not established and a certain amount of open-endedness is permissible.

Key Informant: Interviews typically take place as consultations between information seekers or policy makers and selected individuals identified as knowledgeable about an issue. Key informants help in characterizing local systems, identifying important sources of variability, and explaining how policies are implemented. They can be government officials, development program staff, leaders of farmers' associations, and community elders, among others.

Individual: Informal, open-ended interviews with individuals can give access to the sociocultural idiom, key issues and discussion of issues which result in reflection, opinions, attitudes and other unstandardizable answers. Individual interviews are good for follow-up explanations and in-depth exploration of items raised in other contexts. Semi-structured or structured interviews with individuals give results which can be compared or quantified.

Community: Can be used to elicit information about a community, general attitudes and opinions, and to assist in interpretation of research findings. There are two approaches to this method: one is managed as a dialogue, with the group answering questions posed by the researcher; the other is a focus group interview in which the researcher acts as a facilitator or observer of group interaction.

Focus Groups: Elicit multiple responses in a limited time. Small homogenous groups are gathered for group discussions of specific research topics. Participants discuss ideas, knowledge, experiences and compare, criticize and elaborate on others' views.

Approaches

Case Study: History and profile of an individual, of a community or household. Case studies focus on identifying complex factors, exploring processes, or studying small, unique population groups. They may be used where high data quality is essential or topics are sensitive.

Ethnographic Study: This method is used to collect information existing in local knowledge systems and to understand individual decision making patterns or principles of community or group organization.

Event History: Longitudinal records of when events or qualitative changes happened to a sample of individuals or collective units such as families. This interview technique is semistructured, and complements quantitative methods with qualitative methods.

Time Line: Long record of the history of a community or group. It provides a view of what the community considers important events and how the present situation developed.

Life History: An individual's account of his life from childhood to the present. Provides rich detail about motivations, constraints and opportunities. Allows more personalized gathering of the same kinds of information as a formal interview schedule.

Stakeholder Consultations: Consultation with central and local government, NGOs, private sector, community, or other groups directly or indirectly involved in the issue being studied.

Triangulation: Cross-checking of findings from one source with several other sources using purposive rather than random sampling in order to investigate the population of interest. There are four kinds of Triangulation, each involving the use of multiple sources: Data, Investigator, Theory, and Methodological.

Observation

Participant Observation: This term implies participation in and observing the daily sociocultural context of a household or community. It allows sufficient knowledge of attitudes and behavior to depict accurately the sociocultural and political context. The weakness of such a technique is its prohibitive cost for undertaking a large sample.

Random Spot: Permits a lesser physical presence than participant observation. For the same survey budget, it permits coverage of a larger sample. The scheduling of observation periods is randomly determined, which leads to higher confidence in data representativeness. The researcher makes an "on the spot" instantaneous observation of behavior and records that behavior as the activity being performed. Once the activity has been noted, the observation period ends.

Structured Direct: This method, involving personal visits, allows for validation and measurement, but is limited to the time and space the observer can cover. It does not explain what is being observed or the meaning behind it.

Direct Measurement: The practitioner uses quantitative measurement (counting, noting instances of behavior) of variables which have been selected for observation.

Sampling

Informal: The observer visits the sample population and talks with the people. With enough visits the validity of the observations can be established through triangulation and saturation. Informal sampling is done when there is no information from which to select a sample.

Purposive: Purposive sampling selects sample units to ensure that different categories are included in the sample. A purposive sample is a representation of a population selected to examine a specific problem, yielding results that are generalizable.

Stratified: When used in qualitative methods, once the relevant characteristics of the population being studied have been discovered, the population is divided for sampling into strata which take these characteristics into account.

Cluster (or Area) Sampling: Sampling of clusters or areas selected according to defined criteria. Allows representative sampling with economy of time and travel.

Network: Networks give a complete picture of all the people involved in an activity, a social relationship, or an institution, while a survey only covers those who fall into the sample. This analysis can therefore give a true picture of variation, means, mode, etc.

Saturation: When everyone says the same thing in interviews, community meetings and focus groups, it is probably true. Gathering information by saturation can be quick and the topic can then be dropped for other questions. However, knowing whether what they are saying is "normative" can only be determined by supplementing these tools with observation of what people do or by statistical methods.

Transect Walks: To study a cross-section of a community, to show cultural, economic, ecological, land use, etc., the researcher systematically walks with key informants through an area, observing, asking, listening, discussing, identifying different zones, local technologies, introduced technologies, seeking problems, solutions, opportunities, and mapping and/or diagramming resources and findings. Transects now take many forms- vertical, loop, watercourse, combing, etc.

Games

Seeking Behavior: This method inquires into a person's or group's motivations and constraints. Inquiring into seeking behavior is a necessary complement for understanding deprivation, discrimination, and vulnerability.

Matrix Ranking: Using matrices to compare, for example different trees, or soils, or methods of soil and water conservation, varieties of a crop or animal, fields on a farm, fish, weeds through scoring...and to express preferences.

Social Ranking: Participants cooperate in ranking the distribution of the phenomenon being discussed: resources, poor households, health care providers, etc. This method draws on the knowledge of the community to create one kind of sample framework.

Wealth Ranking: Grouping or ranking households according to well-being or wealth, including those considered poorest or worst off. A good lead into discussions of the livelihoods of the poor and how they cope.

Problem and Needs Ranking: Method for eliciting knowledge about problems and preferences about needs from informants. Aids to quantification and ranking include the Ate board, informal pie diagrams, and various systems of questioning.

Mapping: People's mapping, drawing and coloring on the ground with sticks, seeds, powders, etc., to make social, health, or demographic maps (of the residential village), resource maps of village lands or

106

forests, maps of fields, farms, home gardens, topic maps (for water, soils, trees, etc.), service and opportunity maps. Participatory inventory and mapping exercises have been successfully completed with local communities, using local knowledge and classification.

Seasonality Mapping: Distribution of days of rain, amount of rain or soil moisture, crops, agricultural labor, non-agricultural labor, diet, food consumption, milk, sickness, prices, animal fodder, fuel, migration, income, expenditure, debt, etc. shown on a monthly or seasonal basis or throughout the year.

Techniques Used By Selected Qualitative and Hybrid Methodologies

TECHNIQUES	METHODOLOGIES				
	Ethnography	Rapid Appraisal	Participatory Appraisal	Sentinel Surveillance	Beneficiary Assessment
Case Studies	●	⊕	⊕	⊖	●
Census	⊖	○	○	⊖	○
Cluster Sampling	⊖	●	●	●	⊖
Daily Routines	●	●	●	○	⊖
Direct Measurement	●	●	●	●	⊖
Direct Observation	●	●	●	●	●
Focus Groups	●	●	●	⊖	●
Games/Tools	○	⊖	●	○	○
Gender Analysis	●	⊖	●	⊖	⊖
Household Interviews ¹	●	⊖	⊖	●	●
Individual Interviews	●	⊖	⊖	⊖	●
Informal Interviews	●	●	●	●	●
Informal Sampling	●	⊖	○	○	⊖
Institutional Assessment	⊖	⊖	⊖	⊖	⊖
Key Informant	●	●	●	●	●
Leading Questions	●	●	●	○	⊖
Life History	●	○	○	○	○
Networks	●	●	●	○	⊖
Participant Observation	●	○	○	○	●
Patterns	●	●	⊖	⊖	●
Problem Identification	⊖	●	●	⊖	●
Questionnaires	⊖	○	○	●	○

¹ Household interviews should distinguish 1) individual interviews in which the topic is the household from 2) interviews with all members of the household

TECHNIQUES	METHODOLOGIES				
	Ethnography	Rapid Appraisal	Participatory Appraisal	Sentinel Surveillance	Beneficiary Assessment
Random Sampling	⊖	⊖	○	⊖	○
Random Spot Observation	●	●	●	○	⊖
Ranking	⊖	●	●	○	⊖
Recall	●	⊖	○	○	⊖
Repeat Visits	●	○	○	●	●
Saturation	●	●	●	●	●
Seeking Behavior	⊖	⊖	⊖	●	⊖
Social Mapping	⊖	●	●	○	⊖
Stakeholder Consultation	○	⊖	●	⊖	●
Stratified Sampling	⊖	⊖	⊖	⊖	⊖
Structured Interviews	⊖	⊖	⊖	●	⊖
Surveys	⊖	⊖	⊖	●	⊖
Triangulation	●	●	●	●	●
Village Meeting	○	●	●	⊖	⊖

Key

- = Frequently used; key element of methodology;
- ⊕ = Frequently used/sometimes used;
- ⊖ = Sometimes used for specific purposes;
- ⊙ = Sometimes used/rarely used;
- = Rarely used.

C-1

107

ANNEX C
LIST OF CONTACTS

Name	Position
Steven Adei	UNDP, New York
Rosanna Agblé	Ministry of Health, Nutrition Division, Ghana
Alfredo Alliaga	Statistician, MACRO International, Calverton, MD
Yaw Ansu	World Bank, Kenya
Joan Atherton	AID, AFR/DP, Washington
Dr. Ayako	University of Kenya
Ruth Ayoade	Food and Nutrition Division, Ministry of Agriculture, Malawi
Suresh Babu	Bunda College, IFPRI Research Fellow, Malawi
Bhuvan Bhatnigar	World Bank, Washington
Mark Blackden	World Bank, Washington
Cyrilla Bwire	USAID/Kenya
Laurie Cameron	USAID, Monitoring and Evaluation Officer, Malawi
Carol Carollus	AID, AFR/ARTS, Washington
Evance Chapasuka	Food and Nutrition Division, Ministry of Agriculture, Malawi
H.E.J. Chauluka	National Statistical Office, Malawi
Wycliffe Chilowa	Assistant Director, Centre for Social Research, Malawi
Chuck Chopak	Eastern and Southern African Coordinator, Famine and Early Warning System, Rosslyn, VA
John Clark	World Bank, Washington
Ghislaine Delaine	Human Resources and Poverty Division, Africa Technical Department, World Bank
Barbara Dickerson	USAID, Monitoring and Evaluation Officer, Ghana
Peter Digby	Statistical Advisor, Ghana Statistical Service
Joseph Doherty	Vice President, International National Socio-Political Risk Assessment (INSPRA), Herndon, VA
Tom Dooley	USAID, Monitoring and Evaluation Officer, Zimbabwe
Tim Finan	University of Arizona, Office of Arid Lands
Marito Garcia	World Bank, Washington
W.O. Goromonzi	Senior Project Analyst, Ministry of Public Service Labour and Social Welfare, Zimbabwe

Name	Position
Christian Grootaert	Economist, World Bank
Margaret Grosh	Economist, World Bank, Poverty and Human Resources Division, Policy Research Department
Stephen Haykin	Program Economist, USAID/Ghana
Helen Henderson	University of Arizona, Office of Arid Lands
Yescal Hentschel	World Bank, Washington
Norman Hicks	World Bank, Washington
Maarten Immink	International Food Policy Research Institute
Eva Jarawan	World Bank, Washington
Murphy Kajumi	ActionAid, Malawi
Mr. Kalla	Director, Central Bureau of Statistics, Kenya
Judy Kateera	Ministry of Finance, SDA Monitoring and Implementation Unit, Zimbabwe
Joseph Kesa	Ministry of Planning and National Development, Food and Nutrition Planning Unit, Kenya
John Kiriimi	Principal Economist, Central Bureau of Statistics, Kenya
Aylene Kovensky	MACRO International, Calverton, MD
Shubah Kumar	International Food Policy Research Institute
Newton Kumwenda	Community Health Services Unit, Ministry of Health, Malawi
G.H. Kunkwenzu	National Statistical Office, Malawi
Milton Kutengule	Social Dimensions of Adjustment Unit, Economic Planning and Development, Malawi
Carol Levin	National Development Planning Commission, IFPRI Research Fellow, Ghana
Charles Machinjili	National Statistical Office, Malawi
Sohail Malik	International Food Policy Research Institute
Charles Mann	Food Security and Nutrition Unit, Economic Planning and Development, Malawi
Rhe Mapemba	Social Dimensions of Adjustment Unit, Economic Planning and Development, Malawi
Tim Marchant	Economist and Statistician, Human Resources and Poverty Division, Africa Technical Department, World Bank

Name	Position
Paul Martin	Programme Coordinator, UNICEF, Ghana
Michele McNabb	Field Representative, Famine and Early Warning System, Kenya
Ruth Meizen-Dick	International Food Policy Research Institute
Mike Mensah	Ministry of Local Government, Ghana
James Milner	Food Security and Nutrition Unit, Economic Planning and Development, Malawi
Marion Mitchell	Sahel Coordinator, Famine and Early Warning System, Rosslyn, VA
Caroline Moser	World Bank, Washington
Bright Mpofo	Consumer Council of Zimbabwe
Lauchlan Munro	Programme Coordinator, UNICEF, Zimbabwe
Deepa Narayan	World Bank, Washington
Sifiso Ndlovu	Statistician, Central Statistics Office, Zimbabwe
Robert Ngong	Statistician, Human Resources and Poverty Division, Africa Technical Department, World Bank
Andrew Norton	Anthropologist, Human Resources and Poverty Division, Africa Technical Department, World Bank
J.H. Nowa	Commissioner, National Statistical Office, Malawi
Dan Owen	World Bank, Washington
John Odiambo Owour	Ministry of Planning and National Development, Food and Nutrition Planning Unit, Kenya
Margaret Ojwang	Ministry of Planning and National Development, Food and Nutrition Planning Unit, Kenya
Peter Ondieki	Ministry of Planning and National Development, Kenya
Alastair Orr	Planning Division, Ministry of Agriculture, Malawi
Thierry Paccoud	Eurostat
Detlef Palm	Programme Coordinator, UNICEF, Malawi
Roger Pearson	UNICEF, New York
Martin Ravallion	Economist, World Bank, Poverty and Human Resources Division, Policy Research Department
Kurt Rockeman	USAID/Malawi
Katrine Saiton	World Bank, Washington



Name	Position
Mike Sarhan	Program Officer, USAID/Malawi
Antoine Simonpietri	Statistician, Human Resources and Poverty Division, Africa Technical Department, World Bank
Justice Soko	ActionAid, Malawi
David Soroko	Agricultural Officer, USAID/Kenya
Jeremiah Sullivan	Deputy Director for Survey Operations, MACRO International, Calverton, MD
Thanh Le	Statistician, MACRO International, Calverton, MD
Sidon Thomas-Konyani	National Statistical Office, Malawi
Aung Tun Thet	UNICEF, New York
Tony Turner	United Nations National Household Survey Capability Programme, New York
Dominique van de Walle	Economist, World Bank, Poverty and Human Resources Division, Policy Research Department
Claudine Voyardis	World Bank, Washington
Patrick Webb	International Food Policy Research Institute
Caitlin Weisen	UNDP, New York
Dietmer Welz	Social Dimensions of Adjustment Unit, Economic Planning and Development, Malawi
Colin Williams	ActionAid, Malawi
Bjorn Wold	NORAD
Mark Woodward	World Bank, Washington

D-1

112

ANNEX D

SCOPE OF WORK

113

Background

The Special Program of Assistance for Africa (SPA) is the most important donor coordination framework for Africa. Established in 1988, the SPA is led by the World Bank and comprises all of Africa's major bilateral and multilateral donors. The SPA's primary objective is to mobilize quick-disbursing assistance and debt relief to support economic policy reform in low-income African countries. At present 27 African countries — low-income, debt distressed, and undertaking structural adjustment — are eligible for assistance under the SPA. The SPA's other major objective is to provide donors a forum to improve the coordination and effectiveness of their aid. To do this, the SPA generally establishes working groups to investigate issues of relevance to economic reform.

In June 1993 the SPA established a working group (WG) on Poverty and Social Policy. The objective of this group is "to consider how SPA could strengthen its impact on poverty reduction and social development in Sub-Saharan Africa (SSA)." The working group has a very substantial plan of work, which includes the following five themes:

- Increasing the **quality and relevance of poverty assessments** to adjustment lending;
- Enhancing the **poverty focus** in the design and implementation of **adjustment programs** in part by including attention to **social** as well as economic policy;
- Ensuring that **poverty alleviation** is a major criterion in **public expenditure reviews**, and that those reviews are more **participatory** in nature;
- Devising better and more appropriate ways to **monitor and analyze the causes of poverty and the impacts of adjustment**, for both SPA and host country purposes; and
- Honing the understanding of the need for and uses of **targeted programs** in alleviating transitory and chronic poverty.

In respect to the work on poverty monitoring and analysis, the report of the first meeting of the WG stated the objective of the work as promotion of "a better use of information to design, monitor and evaluate poverty reduction programs, and sustain the efforts invested through SDA." The report of the first meeting of the WG states that in order to promote this better use of information, "collection and analysis on a regular basis of adequate, gender and culture-specific information on the characteristics of the poor such as their income and expenditure patterns, their response to various incentives, the satisfaction of basic needs, changes in their welfare over time, and their behavior towards economic and political reform is essential." Equally important is to ensure that this collection and analysis of information is undertaken in a cost-effective manner such that host institutions in Sub-Saharan Africa are enabled to monitor poverty reduction and the impacts of adjustment on a sustainable basis.

Considerable research has been undertaken in recent years by different agencies to develop appropriate methodologies for monitoring poverty. These build upon both qualitative and quantitative assessment techniques. On the statistical side, there are programs such as the SDA, LSMS, DHS and the UNNHSCP which have been extensively applied in different countries in the region. Complementing these are less comprehensive and more rapid appraisal approaches, including sentinel site surveillance, beneficiary assessments, focus groups and so forth. At the moment, no complete anthology exists that describes all the approaches, their strengths and weaknesses and their costs and benefits. Thus, the proposed study would not propose new or different methodologies, but rather would provide a means of helping countries select what approach or combination of approaches would be most appropriate to their specific needs. The study would be expected to serve as an independent review that would objectively describe the tradeoffs between the various methodologies available.

Objective

To prepare a comparative analysis of both quantitative and qualitative methodological approaches to poverty monitoring and analysis which will help determine the institutional requirements, and the strengths and weaknesses of different methodologies for monitoring and analysis of poverty, and for providing a periodic assessment of the poverty status of African people, which could then be fed back into adjustment design and implementation. It is anticipated that the results of this review will provide guidance to African governments, to research and statistical institutions and to donors on appropriate methodological approaches in different circumstances.

The study will take into account the fact that information requirements for measuring and monitoring poverty levels, for linking welfare outcomes to macroeconomic policies and for providing a means for affected groups to articulate their needs and constraints are normally different (although there may be some overlap); consequently, the choice of instrument(s) will depend upon the objective in information use that is given priority. Moreover, different approaches to poverty alleviation will affect the choice of instruments used for monitoring and analysis. It is expected that the study will provide criteria by which methodological choice can be linked to objective.

Statement of Work

The contractor will undertake a review and comparison of tested quantitative and qualitative methodological approaches to poverty monitoring and analysis. The approaches reviewed shall ensure that inquiry yields national and sub-national estimates of welfare and factors affecting welfare levels. This will involve the collection of information at the individual, household and community levels, if requested. Each type of inquiry shall accommodate the collection of information on key variables related to gender, ethnicity, religion, age, class, educational level or other status that might have a bearing on income or expenditure levels and on the impact of adjustment upon the individual. The contractor will pay particular attention to the question of institutional requirements and capacity needed to implement the different approaches. This shall include the capacity to collect, to process, to analyze and to report on the data.

The contractor will provide a description of each methodology, and indicate where and under what circumstances it has been used. Methodologies emanating from any region of the world are suitable candidates for inclusion, but methods must be replicable or adaptable to conditions in Sub-Saharan Africa. In particular, innovative quantitative methods that retain viability while reducing cost through reduced sample size or questionnaire length, pairing of quantitative and qualitative data and modularized surveys (such as the Demographic and Health Survey) that lend themselves to co-financing between donor and recipient shall be reviewed. Examples of problems there were encountered in actual settings in the region shall be included, as well as resolutions to said problems, where available.

The analysis of the alternative approaches is likely to build on the idea of **tradeoffs**, highlighting the merits and demerits of the different approaches. It is expected that an analysis of the pros and cons of each methodology will consider the following dimensions:

- Rapidly-executed turnkey systems, slower capacity-building approaches and middle ground approaches (e.g., the Demographic and Health Survey);
- Ability to meet the minimum information requirements noted above;
- periodicity;
- Cost-effectiveness (costs to include: "learning," or start-up, time to conduct, skills and training necessary and recurrent costs);

- Amenability to multiple uses (i.e., to secondary analysis, or to meeting several, prioritized objectives);
- Replicability and comparability through time;
- Complexity/required level of expertise and institutional support to administer, analyze and convey results to policy makers;
- Utility for within-country and for cross-country comparisons;
- Complementarity with other methods;
- Multi- vs. single-purpose data collection efforts;
- Error control (sampling and non-sampling); and
- Speed with which results are obtained.

The contractor will recommend other analytical categories, as appropriate. Although all of the above variables shall be covered, the contractor may reorder them to improve the presentation. Areas for further exploration, or where little information is available, will be noted.

The contractor will set out criteria, pros and cons as a means of making recommendations as to choices of methodology for poverty monitoring and analysis in Sub-Saharan Africa. These criteria will include, but not be limited to, comprehensiveness, cost-effectiveness and institutional capacity required. The criteria for use of alternative approaches shall be clearly stated so that they can be used in actual situations.