

Strengthening Statistical Systems for Poverty Reduction Strategies

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Outline

1	Introduction.....	1
2	Overview of the Statistical Process	2
3	Data Sources.....	4
3.1	Censuses and surveys	4
3.2	Administrative data and management information systems.....	5
3.3	Qualitative data and participatory assessments	6
4	Assessing Strengths and Weaknesses – Data Outputs.....	7
4.1	Data needs for the PRSP	7
4.2	Assessing data quality	9
4.3	The general data dissemination system	13
5	Assessing Strengths and Weaknesses – Organization and Management.....	15
5.1	Overview	15
5.2	Internal organization	17
5.3	The external environment for statistics	18
6	Developing a Poverty-Focused Information Strategy.....	22
6.1	Overview	22
6.2	Ownership and participation	23
6.3	Developing the strategy	24
6.4	International and donor support.....	27
6.5	Monitoring progress with the strategic plan.....	29
	Useful Internet Addresses.....	31
	References and Further Reading	333

Case Studies

1. Involving statisticians in PRSP preparation
2. Use of GDDS in PRSP
3. The structure of national statistical systems
4. Reviewing the organization and management of a statistical system
5. Example of a training needs and human development review for a statistical system
6. Examples of recent statistical legislation
7. Examples of performance agreements for national statistical systems
8. Example of a review of customer relations
9. The development of a poverty-related information strategy
10. Example of a sequenced information strategy
11. Examples of quick wins for national statistical systems

Technical Notes

1. The General Data Dissemination System and Data Quality Assessment Framework
2. International recommendations and good practice for censuses and surveys
3. The Core Welfare Indicator Questionnaire
4. The Living Standards Measurement Survey
5. The use of administrative data
6. Linking participatory poverty assessments and quantitative data
7. Indicators for the international development goals
8. International recommendations for poverty-related indicators
9. The fundamental principles of official statistics

1 Introduction

The previous data chapters in this *Sourcebook*, particularly Poverty Data and Measurement and Monitoring and Evaluation have emphasized the central role of measurement and the data needed for poverty reduction strategies. The purpose of this chapter is to describe the role of the national statistical system in meeting the information needs of the PRSP and, where the system is unable to meet those needs, to provide guidance on how capacity can be strengthened.

The preparation of the PRSP is a data intensive process and focuses attention on the capacity of the statistical system to deliver the data. It provides an important opportunity, not only to identify the demand for poverty-related data, but also to highlight areas where investment and improvements are needed. The PRSP process also places attention on data quality and so requires an assessment of the different data collection systems and processes. The PRSP requires a comprehensive approach, requiring information and analysis at the level of the macro-economy, for individual sectors, including both productive and social sectors and at the household or individual level. The need to examine data sources and to undertake such a comprehensive analysis, can help to identify gaps in coverage, inconsistencies in data series and highlight situations where there is duplication and a waste of resources devoted to data collection.

In order to take advantage of this opportunity, however, it is important to ensure that the senior managers of statistical agencies are involved in the PRSP preparation process from an early stage. The direct participation of statisticians in the preparation team is needed in order to help analysts get access to and use the data that do exist, to explain and interpret data from different sources, to select appropriate indicators and to help design the monitoring system. Experience from a number of countries indicates that where statisticians are involved as full members of the PRSP team from an early stage, not only is the level of analysis enhanced, but also opportunities for improving statistical systems are more easily identified (see **Case Study 1**).

Because of the wide range of information needed to develop a full understanding of the nature and incidence of poverty and the need to monitor progress at both the micro and macro levels, very few, if any, countries will have all the data they need immediately available. In general, therefore, the PRSP process should identify the most important data deficiencies, specify the impacts these have had on the analysis of poverty and describe how these factors have affected the selection of indicators and the design of the monitoring system. The preparation of an interim poverty reduction strategy paper provides the opportunity to carry out an initial analysis of the statistical system and to identify the main strengths and weaknesses. The full PRSP will need a more detailed assessment and a description of the steps that countries propose to take to improve the availability of information and the quality of the main indicators. (See chapter 1, box 4).

This chapter focuses on the assessment of a statistical system as a whole, taking a broad view of the range of organizations involved and of the types of data needed for a PRSP. The emphasis is on national data, but in almost all cases, the challenge is not only to monitor what is happening at the level of the whole country, but also to provide data at a sufficiently low level of aggregation to monitor poverty and identify appropriate interventions suited to specific environments and localities.

In making an assessment of the national statistical system and in developing a poverty-focused information strategy, the chapter makes use of the Data Quality Assessment Framework (DQAF) developed by the International Monetary Fund (IMF). This provides a formal framework for assessing the operations of a statistical system and emphasizes the importance of providing users of the data with the information they need to assess data quality and make best use of the outputs provided. The chapter also refers to the IMF's General Data Dissemination System (GDDS); more information on both DQAF and GDDS is provided in Section 3 and **Technical Note 1**.

2 Overview of the Statistical Process

The starting point of the analysis is to identify the data that are needed for the PRSP. In general, as identified in the other data chapters, data are needed for a number of purposes, including:

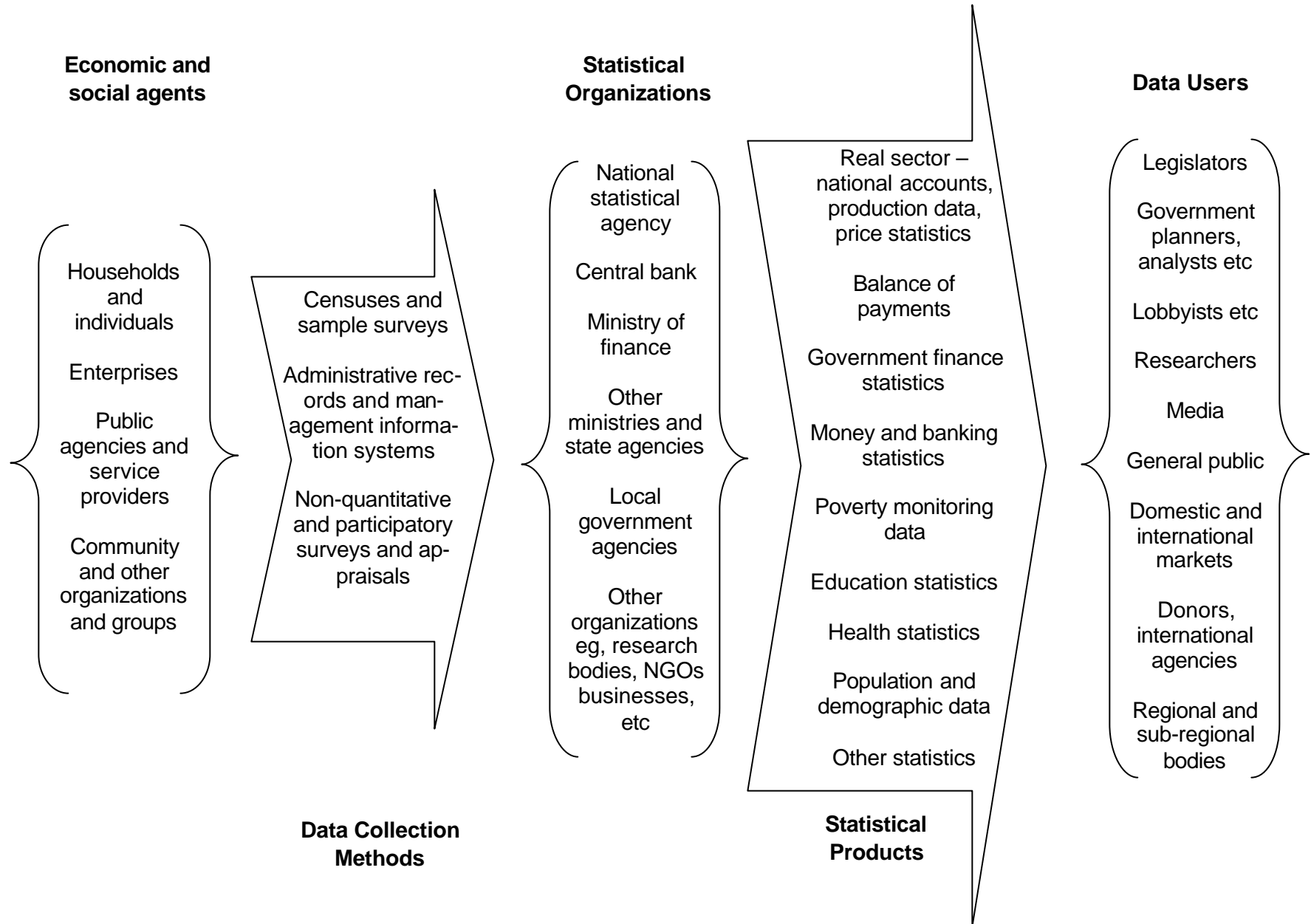
- General advocacy, supporting the social debate about strategies, targets and policies and promoting participation generally;
- Detailed analysis for resource allocation and program and project design;
- Program monitoring and budget management;
- Impact assessment of selected policies and programs;
- Promoting greater transparency and accountability by government.

The information and data that are needed for all these purposes are generated by the statistical system and the processes that are involved are set out in Figure 1. Data are obtained about a number of different social and economic agents that include households and individual people, private for-profit enterprises – both financial and non-financial – public sector agencies and other organizations involved in service delivery (for example, agencies providing health and education services), and other not-for-profit organizations and entities such as community groups, religious bodies etc.

The data are collected by different statistical agencies as indicated in the middle column in Figure 1. Most countries have a national statistical agency that has primary responsibility for the collection and dissemination of statistical data, but a number of other organizations are also likely to carry out some data collection and these are listed in the figure. For example, in many countries the central bank has responsibility for collecting monetary statistics and may well cover other areas such as banking and balance of payments. The ministry of finance is usually concerned with collecting and analyzing data on the financial operations of government and other ministries may well collect data in their specific areas of concern such as health, agriculture and education.

Statistical data are disseminated and made available to users in different forms and examples of different kinds of statistical products and outputs are listed in Figure 1. For example, economic data on the real economy is usually published in the form of national accounts, together with more detailed statistics on production and on prices. Social statistics include data on health, education, population and on poverty outcomes. Other types of statistics will be important in different countries and may include data on the environment, governance and the justice system.

Figure 1. The Statistical Process



In summary, therefore, the function of the national statistical system is to collect data on a number of different topics from a wide range of economic and social agents, to process and analyze these data and to disseminate summary information that it is in a form that is amenable for use by a wide range of different users. In the remainder of this chapter we look at how the strengths and weaknesses of the system can be assessed from the point of view of the PRSP and how priorities for improvement can be identified. We look at system performance from two points of view, the adequacy of the outputs and the organization and management of the system as a whole.

3 Data Sources

3.1 Censuses and surveys

In most countries, the national statistical agency will be responsible for large scale and regular data collection processes. These will include censuses of population, agriculture and businesses, sample surveys, especially those that use households as the unit of enumeration and other kinds of data collection, for example, price collections. Even in fairly centralized systems, however, many other central government ministries and departments will also collect data. In some cases these agencies may carry out specialized data collections such as a school census, or a survey of small businesses.

There is a wide ranges of literature on good practice and international recommendations for the design and implementation of different kinds of censuses and surveys. **Technical Note 2** provides a number of references for the most important major data collection exercises relevant to PRSPs.

3.1.1 Censuses

Censuses are usually complete enumerations of all the units in some population, such as all the people in a country (population census), all agricultural enterprises (agricultural census) or all business establishments in specified industries (economic census, or a census of business activity). They are usually very large, expensive and complex data collection exercises carried out a fairly infrequent intervals, for example, most countries carry out population censuses only once every ten years. The main purposes of a census are:

- To provide information about the structure of the population under study.
- To provide data at low levels of aggregation. The complete enumeration allows for the publication of information at very low levels of aggregation, subject only to the need to preserve the anonymity of individual respondents.
- To provide a frame from which future samples can be selected.

From the point of view of the PRSP, the population census is probably the single most important source of data. While it is unlikely that it will be possible to change the timetable for carrying out censuses in countries, there is clearly an advantage in preparing the PRSP when recent census data are available. Population data are important, both in their own right and also in providing the denominators for a number of important poverty indicators. Data derived from projections made from a baseline that is ten or more years old are likely to be subject to substantial errors.

3.1.2 Sample surveys

Household surveys are a crucial source of information for poverty analysis. Usually they collect information using a standard questionnaire from a sample of households selected at random from the population that is of interest for the analysis. National sample surveys use random processes to select households that are representative of the population as a whole, but other surveys may focus on specific interest groups, for example, rural households, slum dwellers, members of a specific indigenous group and so on. The use of random selection of the sample is important for two major reasons. First, it guards against bias in selection and provides an automatic mechanism for ensuring that the sample really is representative of the population as a whole. Second, random selection provides access to powerful statistical tools that not only provide unbiased and consistent population estimates, but also allow for the level of sampling error to be estimated.

Sampling error is, in effect, the price that is paid for relying on data from only a sample to estimate characteristics for a population. Population estimates generated from different samples will vary. Using random sampling, statistical theory allows the distribution of the sample estimates to be derived and this, in turn, provides an estimate of the likely range within which the true, but unknown population parameter lies.

The design of household surveys usually involves a trade-off between cost, speed, sample size and the complexity of the information to be collected. In general, two kinds of approach are possible.

- Larger-scale, fairly rapid monitoring surveys, that attempt to monitor indicators of welfare in a population, but which usually cover a limited set of data and may well not provide the data needed to support causal analysis. **Technical Note 3** provides details of the World Bank's Core Welfare Indicator Questionnaire (CWIQ) which provides a mechanism for carrying out rapid monitoring surveys.
- More complex household surveys, usually covering a much wider range of questions designed to understand household decision making, but covering a smaller sample. The Living Standards Measurement Survey (LSMS) is an example of such an approach and is described in more detail in **Technical Note 4**.

3.2 Administrative data and management information systems

A substantial amount of information is also collected during the course of regular administrative processes. In Figure 1 these are referred to as management information systems (MIS). Typically, data are collected on a routine basis, for example, where people using a public service are required to make some payment, or perhaps apply for a license. The information is needed to manage the system, to account for revenue and expenditure, and to ensure that the legislative requirements are being met. At the same time, however, it can also be used to generate statistical information. All countries make use of this kind of information. For the purposes of the PRSP some important management information systems will include:

- School records, which will provide information on the education system including indicators such as enrolment, academic outcomes and progress through the educational system
- Health records, providing information on access to and use of health facilities, morbidity and mortality data for important diseases, the use of preventative health services and important outcomes such as the nutritional status of children
- Budget and expenditure records, providing information on the allocation and use of financial resources

- Social security records, providing information on changes in employment, for example
- Fiscal and monetary data collected through the banking system to monitor macro-economic conditions and stability
- Taxation and customs receipts, to monitor changes in government revenue and also to provide information on external trade, business operations and other economic data.

Administrative data and management information systems, of course, are not only maintained by central government. The records of local government will be important sources of data, especially where there has been decentralization of service delivery and management. Records will also be kept by non-governmental agencies and civil society organizations, for example, where they are involved in the implementation of government or donor funded programs and projects. Such systems, for example, could provide information on the extent and coverage of safety-net programs, or access to and use of financial services.

Data derived from MIS have important advantages and disadvantages for use in the PRSP. The overwhelming advantage is almost always one of cost, together with timeliness and frequency. Since the administrative systems are already in place, the costs are generally restricted to the compilation and analysis of the data. The main disadvantage is usually the coverage of the data. Information derived from the records maintained by a service delivery system such as clinics or schools, will only cover those people and households that make use of the service. It cannot always be assumed, for example, that the population attending health clinics is the same as the population at large. Key groups may not have access, because of problems such as distance, cost or for social and cultural reasons. It is important, therefore, from time to time, to validate the information derived from MIS with data obtained from censuses and surveys.

Technical Note 5 provides information on the advantages and problems associated with the use of this type of data. It also provides some examples of how the use of modern computer technology can improve the quality of the information and help to link together data sets from different sources.

3.3 Qualitative data and participatory assessments

The third type of data collection method shown in Figure 1 covers a wide range of other information sources that have been grouped together under the general heading of qualitative data and participatory assessments. While these kinds of data are rarely considered to be part of a formal statistical system, nevertheless the information they provide is of the utmost importance for the development of a comprehensive poverty reduction strategy. The overall approaches are described in more detail in Chapter <?>, **Technical Note 6** describes some kinds of participatory assessment and provides advice on how quantitative data and qualitative information can be linked together in a poverty assessment.

4 Assessing Strengths and Weaknesses – Data Outputs

4.1 Data needs for the PRSP

4.1.1 Understanding indicators

The design and implementation of the PRSP generates many demands for different kinds of data. As outlined in Section 2 data are needed to generate debate, allocate resources, design interventions, monitor progress and report on outcomes. A key part of the process is to set goals with specific targets to be reached within an agreed time period. In order to measure progress we need a number of different indicators and because one indicator can rarely reflect the extent to which a given goal has been realized, several indicators, both intermediate and final, are usually used for each goal.

Indicators can be broadly classified into two groups: *intermediate* and *outcomes/impact*. When an indicator measures an outcome or the effect of an intervention on individuals' well-being, we call it an "impact" or "outcome" indicator. For example, literacy may be considered a final goal, so an indicator measuring it—say, the proportion of people of a certain age who can read a simple text and write their name—would be an outcome indicator. **Technical Note 7** lists the International Development Goals and the indicators selected for the goals; these may provide a starting point to think about outcome and impact indicators at the country level.

When an indicator measures a factor that determines an outcome or contributes to the process of achieving an outcome, we call it an "input" or "output" indicator, depending on the stage of the process—in short, an "intermediate" indicator. For example, many inputs may be needed to raise literacy levels: more schools, better-qualified teachers, training materials, and so on. A measure of public expenditures on classrooms and teachers' salaries would be an input indicator, while measures of classrooms built and teachers trained would be output indicators. What is important is that inputs and outputs are not goals in themselves; rather, they help to achieve the chosen goals. Table 1 gives examples of intermediate and final indicators for a set of possible goals (expanding economic opportunity, enhance the capabilities of poor people, and reduce vulnerability).

Exogenous factors that are likely to affect final indicators, but are neither final indicators themselves nor intermediate indicators as discussed above—such as rainfall and commodity prices—should also be measured. Both final indicators (outcome and impact) and intermediate indicators (input and output) are important. Monitoring final indicators helps to judge progress toward the targets set. However, these indicators generally change slowly over time and are the result of many factors, some outside the control of policymakers and program administrators. Monitoring intermediate indicators, on the other hand, gives a more timely picture of what is happening. These indicators generally change as a result of factors that governments and other agents control, and they are easier to collect information on. Monitoring inputs and outputs can help identify which of the several factors influencing an outcome is not on track and indicate what corrective action could be taken. Finally, it should be noted that many factors that affect quality of life cannot be easily quantified but are not for this reason less important. So, where feasible, qualitative and subjective indicators should be added—for example, whether or not people perceive themselves as being poor, the level of satisfaction with service delivery or the quality of the services they use.

Table 1. Examples of intermediate and outcome indicators

Goal	Intermediate indicator (input and output)	Outcome/impact indicator
Reduce extreme poverty and expand economic opportunities for the poor.	<ul style="list-style-type: none"> • Expenditure on employment programs for the poor • Number of beneficiaries of employment programs for the poor 	<ul style="list-style-type: none"> • Incidence of extreme poverty: percentage of population whose consumption falls below the poverty line • Poverty gap ratio • Income/expenditure of the poorest 20% of the population as a share of the total income/expenditure of the whole population
Enhance the capabilities of poor men and women.	<ul style="list-style-type: none"> • Expenditure on primary education as a share of total expenditure in education • Expenditure on primary health care as a share of total expenditure on health • Number of new schools built • Number of primary school teachers trained • Percentage of population below the poverty line with access to health care facilities • Number of doctors per 100,000 inhabitants 	<ul style="list-style-type: none"> • Literacy rates • Learning achievement • Gross/net enrollment rates in primary/secondary education • Dropout and repetition rates • Infant, child, and under-five mortality rate • Maternal mortality rate • Malnutrition rate
Reduce the vulnerability of the poor.	<ul style="list-style-type: none"> • Expenditure on safety net programs • Number of households/individuals receiving transfers from the government • Number of households receiving food aid as a percentage of drought-affected households 	<ul style="list-style-type: none"> • Number of households made food-secure • Percentage of vulnerable group (for example AIDS orphans) protected • Additional income provided through safety net programs

4.1.2 The characteristics of a “good” indicator

A good impact/outcome indicator (a “final” indicator) is one that:

- Provides a direct and unambiguous measure of progress - more (or less) is unmistakably better;
- Is relevant - it measures goals or factors that have an impact on the goals;
- Varies across areas, groups, over time, and is sensitive to changes in policies, programs, institutions;
- Is not easily blown off course by unrelated developments and cannot be easily manipulated to show achievement where none exists;
- Can be tracked (better if already available), is available frequently, and is not too costly to track.

For example, an indicator such as vehicle operating costs is influenced not just by factors reflecting policies and programs, such as the roughness of roads, but also by unrelated factors such as the international price of gasoline. Thus it is not a good indicator of progress achieved in the roads sector.

A good intermediate indicator is one that refers to key determinants of an impact or outcome and that varies across areas or groups or over time. So, for example, if all schools had more or less the same teacher-to-student ratio, the teacher-to-student ratio would not be a very useful intermediate indicator to monitor differences in quality of education across regions, although it could still be useful to monitor changes over time.

4.2 Assessing data quality

4.2.1 Overview

Assessing how well the statistical system generates the data needed for PRSP indicators requires an inventory of data outputs, setting out what indicators are produced. However, simply having information on whether or not a particular indicator is available is not sufficient. To complete the assessment we need to know how the indicator was collected, what it covers, how accurate or reliable it is, how often it is published, the time period it refers to, and the level of aggregation. The whole range of factors that determine how well a particular indicator is suited to some use is referred to as **data quality**. There are many different possible definitions of data quality, but overall "*The quality of the statistics refers to all aspects of how well these statistics meet users' needs and expectations*" (Encyclopedia of Statistical Sciences, Wiley, Vol 3, pp 621-622). In the past, quality in statistics might have been seen to be synonymous with accuracy, but today a consensus is emerging that quality is a much wider, multidimensional concept. However, no internationally agreed definition of data quality exists. To further a common understanding of data quality, the International Monetary Fund (IMF) has set up a Data Quality Reference Site on the Internet. It has also become clear that one practical need has been for more structure and a common language for assessing data quality. Such an assessment tool could serve to complement other frameworks (for example the IMF's Special Data Dissemination Standard and General Data Dissemination System), to guide statistical agencies in assessing whether national data are adequate for different purposes, and to provide a basis for assessing and reporting on the observance of standards and codes. With these needs in mind, therefore, the IMF in collaboration with other agencies has been developing a Data Quality Assessment Framework (DQAF).

The data quality assessment framework that is emerging reflects the growing literature on the subject, practical experience in dealing with the statistical systems of both developed and developing countries, and feedback from several rounds of consultations. It comprises a generic assessment framework and specific assessment frameworks for the key sets of statistics, focusing initially on the main macro-economic aggregates. The generic framework, which brings together the internationally accepted core principles/standards/or practices for official statistics, serves as the umbrella under which the data set-specific quality assessment frameworks are developed. The framework follows a cascading structure that flows from five main dimensions that have been identified as critical constituents of data quality (see Box 1). For each of these interrelated, and somewhat overlapping, dimensions, the framework identifies pointers, or observable features, that can be used in assessing quality. These pointers to quality are broken down into elements (major identifiers of the quality dimension) and further, into more detailed and concrete indicators. Below the indicator level, especially in the dimensions dealing with methodological soundness and with accuracy and reliability, the specific frameworks tailor these pointers to the individual data sets.

Box 1. The Dimensions of Data Quality

The five dimensions of quality identified in DQAF are as follows:

Integrity

This dimension is intended to capture the notion that statistical systems should be based on firm adherence to the principle of objectivity in the collection, compilation, and dissemination of statistics. The dimension encompasses the institutional foundations that are in place to ensure professionalism in statistical policies and practices, transparency, and ethical standards.

Methodological soundness

This dimension of quality covers the idea that the methodological basis for the production of statistics should be sound and that this can be attained by following international standards, guidelines, and agreed practices. In application, this dimension will necessarily be data set-specific, reflecting differing methodologies for different data sets (for example, the 1993 SNA for national accounts and the fifth edition of the Fund's *Balance of Payments Manual* for balance of payments).

Accuracy and reliability

For most users, accuracy and reliability are among the most sought-after attributes of data. We are all concerned that the data we use sufficiently portray reality at all stages of dissemination—from “flash” to “final” estimates. Thus, this dimension relates to the notion that source data and compilation techniques must be sound if data are to meet users' needs.

Serviceability

Another area of concern for users is whether the data that are produced and disseminated are actually useful. This dimension of quality relates to the need to ensure that data are produced and disseminated in a timely fashion, with an appropriate periodicity, provide relevant information on the subject field, are consistent internally and with other related data sets, and follow a predictable revisions policy.

Accessibility

Users want understandable, clearly presented data and need to know how data are put together as well as be able to count on prompt and knowledgeable support from data producers for their questions. Thus, this quality dimension relates to the need to ensure that clear data and meta-data are easily available, and that assistance to users of data is adequate.

Carson, Carol S., "Toward a Framework for Assessing Data Quality" IMF, Washington DC, December 2000

Because quality assessment depends on the users' requirements, the weight that is given to any one of these dimensions will depend on what the data are going to be used for. It is not possible therefore, to provide an absolute measure of quality for any indicator, rather what needs to be done is to provide the user with the information needed for him or her to make their assessment of quality depending on the use they have in mind. Table 2 provides some examples of the different aspects of data quality that may be required for PRSPs. The aspects of quality set out in the rows of the table are discussed in more detail below.

4.2.2 Data coverage

Data coverage, that is, what information is generated by the statistical system, refers to the indicators that are published as well as information on the scope of the data system and the reference time period. For a particular indicator it is important to know not only what information has been collected, but what group or population it covers and for what time period. For example, school enrolment may be defined as the percentage of children in a specified age group that are attending school. In order to use the indicator it is also important to know which schools are covered (for example, are all schools included or just those operated by the government?), what grades are included, what point in time

do the data refer to, what ages are included and whether the information has been collected from all the relevant schools or just from a sample.

Table 2. PRSPs, Data Uses and Required Characteristics

Uses	Advocacy, Social Debate, Participation	Analysis, Resource Allocation, Design	Program Monitoring, Budget Management	Impact Assessment	Transparency and Accountability
Data Quality					
Integrity	Must be seen to be free from political manipulation	Need for detailed information on methods	Need for detailed information on methods	Need for detailed information on methods	Must be seen to be free from political manipulation
Methodological soundness	Broad concepts, simple constructs	Program specific, complex constructs	Program related, agreed performance measures	Program and policy related, compare changes over space and time	Broad concepts, simple constructs
Accuracy and reliability	Limited	High	High	High	Limited
Serviceability	Need to identify major trends, timeliness a lower priority	Trend data needed, timeliness very important	Need for data at regular intervals, timeliness very important	Data needed infrequently, timeliness a lower priority	Data to identify major trends, timeliness a lower priority
Accessibility	Outputs made accessible to poor and other groups	Need for access to detailed data sets	Need for access to detailed data sets	Need for access to detailed data sets	Widespread dissemination accessible to general public

The IMF's General Data Dissemination System (GDDS) provides a framework for assessing data coverage and for identifying priority areas for improvements. This is discussed in more detail below. For the indicators that are needed for the PRSP, it is recommended that information about the source, coverage, reference period and method of data collection is put together in a systematic way. This kind of information is referred to as **metadata**, that is information about indicators that helps the user to interpret specific values and which also indicates possible limitations on use.

4.2.3 Methodological soundness

Under this heading the main concern is to ensure that the methodological basis for the data, related to the concepts and definitions used, the methods of data collection and the ways in which the data are summarized and reported is sound and reflects good practice. A particular requirement is for there to be consistency between different data collection processes so that real changes can be identified both over time (time series analysis) and between different domains of study or strata at the same point in time (cross-sectional analysis).

In order to promote consistency, countries are encouraged to adopt and use international recommendations for the classification of variables and for frameworks for analysis. At the international level, a number of frameworks and classifications for specific types of data important for PRSPs have been developed and are in use in many countries. At the same time countries also have access to internationally agreed recommendations on good practice for statistical activities and for the compilation of indicators. **Technical Note 8** gives a list of those that are likely to be the most important for poverty analysis.

In the area of economic statistics a number of frameworks exist to provide a basis for the collection and classification of data on different types of transaction¹. There are no equivalent comprehensive frameworks for the social and demographic data. But there do exist guidelines for compilation, standard classification systems, and examples of “best practice” that are frequently cited and widely used by statisticians to organize the collection and presentation of social and demographic statistics.

4.2.4 Accuracy and reliability

An indicator is a statistic that has been derived from a set of data in order to measure a specific phenomenon. As such it is subject to errors that can arise from a number of different sources, including the following.

- Measurement error, where the variable of interest cannot be measured with absolute accuracy. For example, we may measure household well-being by asking the members of the household to list all expenditures over a specified period of time. However the responding data will almost certainly include some errors because people make mistakes in recording and forget or deliberately conceal some kinds of expenditure.
- Estimation or calculation error, where the statistical techniques or estimation procedures introduce some systematic error into the indicator.
- Selection error, where the way in which the respondents are selected introduces some bias into the results. For example, a household survey that is carried out during normal working hours may not include respondents who are out at work and hence the results may well not be representative of the whole population.
- Sampling error, which results from the situation where indicators are obtained from a sample of respondents rather than the whole population.

Errors may be systematic and hence introduce some bias into the reported indicators, or they may be random, where the effect is to increase the variation of the indicator around the reported mean. In most economic and social statistics there is likely to be some kind of error and indicators need to be interpreted with this in mind. The main requirement is for the providers of the information to take as much care as possible to keep errors to the minimum and to provide users with the information needed to assess their likely size and impact. In general, increases in the accuracy or precision of indicators can be achieved, but at some cost, both in terms of time and resources. Assessing the trade-off between accuracy, timeliness and cost for different indicators is an important component of the design of a poverty monitoring system.

4.2.5 Serviceability

This aspect of data quality is concerned with the relevance of a specific indicator or data set to the needs of the users as well as other aspects such as the scope, timeliness and frequency of indicators. Requirements will vary with both use and type of indicator. For example, variables that do not change very rapidly over time, such as measures of population change and mortality rates, may only need to be monitored at fairly infrequent intervals, annually or perhaps only once every five years. Other variables that change rapidly such as consumer and other prices, will need to be monitored much more regularly.

¹ For example, the UN System of National Accounts for the real sector, IMF recommendations on Balance of Payments Statistics and Government Finance Statistics etc. More details are provided in **Technical Note 8**.

4.2.6 Data accessibility

Reliable, timely, comprehensive statistics are crucial to informed public decision making, and help to provide discipline in public debate. They may also have economic value to individuals and companies, who use them to make plans and evaluate market positions. In the PRS process, statistics are needed to identify the causes and locations of poverty, to set goals, and to monitor progress toward those goals. For these purposes and others, it is important that the outputs of the statistical system be readily accessible to the public.

For the PRSP, the public should have ready access to official statistics and they should be also be timely. A regular publication program, in print or through electronic media, is the most common means of disseminating statistics. Whatever approach is chosen (and it is desirable to release data in as many formats as possible), data should become available to all interested parties at the same time. It is useful for countries to describe how data are released and the steps taken to ensure equal access by all potential users.

One way in which dissemination can be improved is through the use of advance release calendars. These inform the public of the planned date (and even time) of release for specific sets of data. The use of advance release calendars increases transparency and helps to enforce a useful discipline on the statistical system.

4.2.7 Integrity

Integrity refers to the policies and practices which ensure the reliability of statistics and foster public confidence in the objectivity and professionalism of the statistical system. There are four main steps to increase the integrity of official statistics:

- Dissemination of the terms and conditions under which official statistics are produced, including those relating to the confidentiality of individually identifiable information.
- Identification of internal government access to data before release.
- Identification of ministerial commentary when data are released.
- Provision of information about revisions and advance notice of major changes in methodology.

While these steps cannot guarantee that statistics are free from tampering or that their presentation is not subject to political influence, they provide some safeguards and increase the amount of information available by which the public can judge the quality of the data.

4.3 The general data dissemination system

4.3.1 Overview

The review of data outlined above has been formalized by the IMF with support from the World Bank in the form of the General Data Dissemination System (GDDS). The system covers not only macro-economic and financial data, but also social and demographic data. The purposes of the GDDS are to:

- Encourage countries to improve data quality
- Provide a framework for evaluating needs for data improvement and setting priorities in this respect
- Guide countries in the dissemination to the public of comprehensive, timely, accessible, and reliable economic, financial, and socio-demographic statistics.

Member countries of the IMF voluntarily elect to participate in the GDDS. Participation requires:

- (1) Committing to using the GDDS as a framework for statistical development
- (2) Designating a country coordinator; and
- (3) Preparing metadata² that describe (a) current practices in the production and dissemination of official statistics, and (b) plans for short- and long-term improvements in these practices.

Participants are requested to update their metadata as and when significant changes in their statistical practices or plans for improvement take place, but at least once a year.

4.3.2 Principal features of the GDDS

The GDDS framework is built around four dimensions - **data characteristics, quality, access, and integrity** - and is intended to provide guidance for the overall development of economic, financial, and socio-demographic data. The framework is designed to be flexible enough to meet the needs of different countries and the developmental requirements of their statistical systems.

The data dimension includes coverage, periodicity (i.e. the frequency of compilation), and timeliness (i.e. the speed of dissemination) and the system provides recommendations on good practice for compiling and disseminating data in five categories or sectors:

- Real sector – covering national account aggregates such as GDP, production and price indices and labor market indicators
- Fiscal sector – government revenue and expenditure and government debt
- Financial sector – broad money and credit aggregates, central bank aggregates, interest rates and the operation of key financial institutions such as a stock market
- External sector – balance of payments, international reserves, external trade, external debt and exchange rates
- Socio-demographic data – population, health, education and poverty

The data dimension in the GDDS is closely linked to the quality dimension described in section 4.2 above. The focus for the access and integrity dimensions is on the development of policies and practices in line with the dissemination of readily accessible and reliable data. Information on access and integrity of the data and, especially, the agencies that produce and disseminate them, is essential in building the confidence of the user community in official statistics.

4.3.3 GDDS and the PRSP process

Box 2 sets out some of the ways in which the GDDS can be used as a powerful tool for the assessment of statistical capacity in the PRSP process. **Case Study 2** provides an example of how the GDDS can be used to document the current capacity of the national statistical system within the framework of the PRSP. It also shows how the needs of the PRSP in terms of monitoring and evaluation can be included in the metadata for poverty statistics in the sociodemographic component .

² The term **metadata** is used to denote information or data about published statistics. The metadata provide the information required by users in order to find out how the data were collected and to determine how they can best be used.

Box 2 The GDDS and the PRSP Process

The GDDS has two important components that indicate its importance as a framework for assessing the statistical system as part of the PRSP process. **First** it is comprehensive and is designed to help countries prioritize plans for improving their statistical systems. Almost all the areas of importance to the PRSP are already included. **Second**, the formal process of preparing the metadata ensures that the data systems underlying the PRSP indicators are well documented.

The sociodemographic data component specifically includes poverty as a data category and thus provides the framework for documenting how the various indicators are to be generated. Important macro-economic and government financial statistics are documented under the real and fiscal sectors.

The GDDS is developing fast, by January 2001, 71 countries had appointed GDDS country coordinators, of which 22 had posted metadata on the Fund's Dissemination Standards Bulletin Board (DSBB); metadata for several more countries were in the process of being finalized before posting.

At the same time, the GDDS is increasingly be-

ing used as a framework for statistical development generally. Although it gives emphasis to macroeconomic, financial and monetary statistics, the inclusion of socio-demographic data provides the link to the PRSP process. From this point of view, the main advantages of using the GDDS as a framework are:

- First, there is really no alternative system available that brings together both social and economic statistics.
- Second, the process of compiling the metadata provides a systematic way of assessing the performance and capacity of statistical systems and prioritizing plans for improvement.
- Third, a large number of countries are interested in participating, there seems to be demand to use GDDS.

There are, of course, also some disadvantages and the main ones are as follows.

- The conceptual development of GDDS reflects an emphasis on economic and financial data
- The format for compiling and presenting the metadata has been developed for economic and financial statistics, it is less well suited to social and demographic statistics (for example, there is no overall framework for socio-demographic data)
- Not all areas of statistics are covered and there are some important gaps, including environmental statistics.

5 Assessing Strengths and Weaknesses – Organization and Management

5.1 Overview

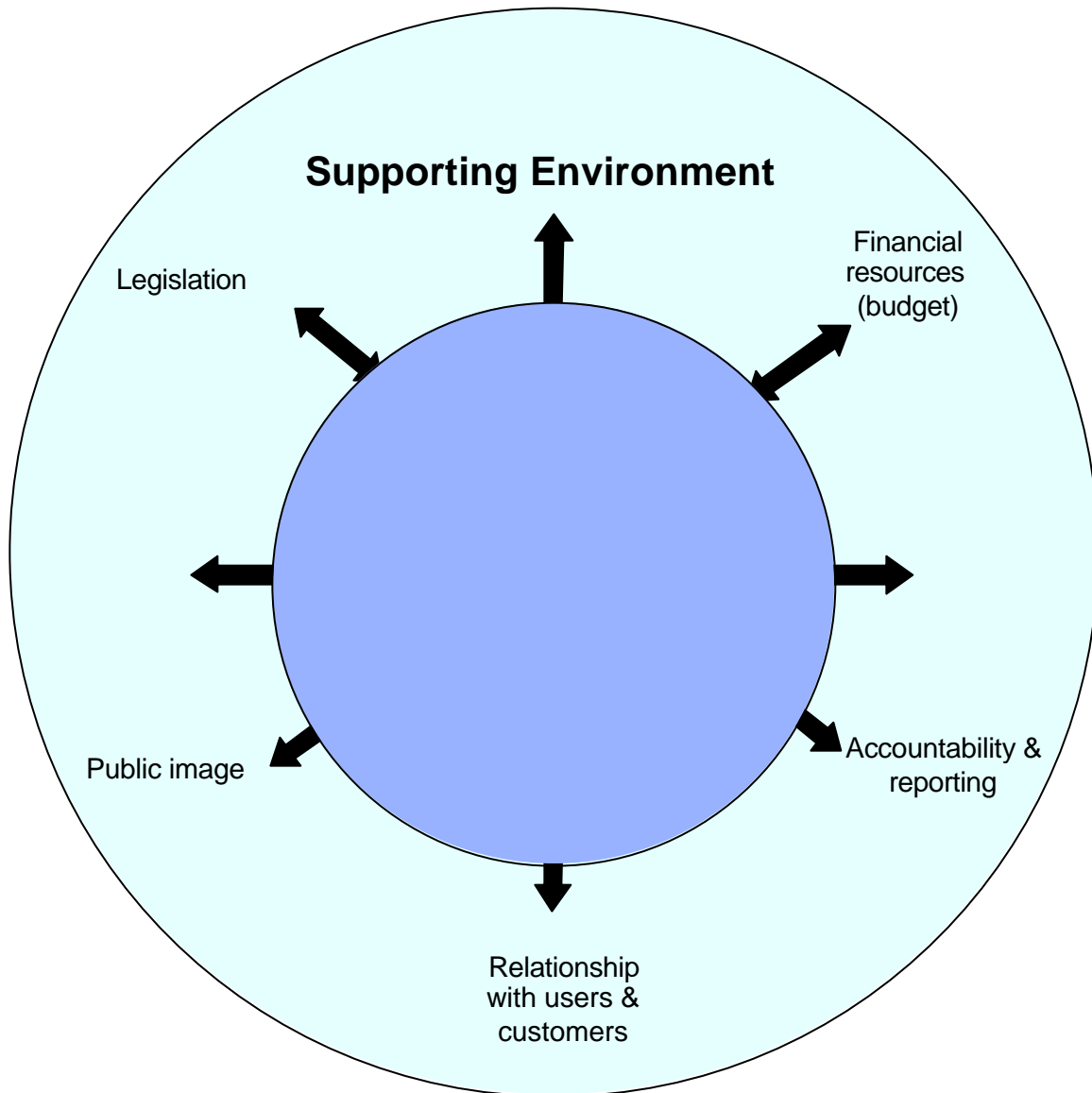
The effectiveness of a statistical system is determined by the outputs and products it produces, but it also depends on the system's functional and organizational structure. The purpose of the section is to identify the main components of a statistical system to provide a basis for assessing capacity and identifying where improvements and investments are needed, which is discussed in detail in Section 6.

Before priorities for investing in the national statistical system can be identified and specific capacity strengthening activities undertaken, the current capacity of the system

needs to be assessed. This will involve a process of identifying strengths and weaknesses, and setting out opportunities and challenges.

It is recommended that such an assessment be divided into two parts: the internal organization, covering aspects such as structure, human resources, infrastructure, coordination mechanisms, and management processes; and the external environment, which includes elements such as the legislation the system operates under, the availability of financial resources, mechanisms for reporting and ensuring accountability, relations with users and customers and the general public image. The overall approach is illustrated in Figure 2.

Figure 2. Components of a National Statistical System



5.2 Internal organization

5.2.1 The structure of the national statistical system

While the information needs and priorities of a country and the capacity of its statistical system vary, many of the main elements can be found in most systems. The main functions of a statistical system are to collect data from a variety of sources, process and analyze this information and then to disseminate it in different forms suited to the needs of different users. The key difference between a national statistical system and an individual researcher, other than scale, is that official statisticians largely collect data and produce statistical products for others to use. This separation between data generation and use puts important demands on the statistical system. The analysis of structure, therefore, should be carried out in terms of the capacity of the system to fulfil the required functions and ultimately to provide the data that users want and need.

The main components of a national statistical system can be considered under the following headings.

- **Policy management and coordination** – who is responsible for overall policy, for setting priorities and for coordination and management of the system?
- **Quality management** – who is responsible for assuring the quality of the data produced?
- **Data collection, compilation and dissemination** – which agencies are responsible for the collection, compilation and dissemination of data in the main areas of concern to the PRSP?
- **Database management** – who has the responsibility for maintaining databases in the main areas?
- **Communications** – what mechanisms and processes exist for communicating between data providers and users?

Some examples of different structures of national statistical systems are provided in **Case Study 3**. In particular, the case study contrasts systems that are centralized with those that operate on a more decentralized basis. The case study also discusses some of the advantages of the national statistical agency operating as an independent agency rather than as part of the ministerial structure.

5.2.2 Coordination and management

A key requirement for any statistical system, but especially one that is more decentralized is to have effective procedures in place for coordination and management. Effective management is required to set strategy and agree on targets, to ensure that the system is responsive to the needs of customers, to mobilize financial and other resources, to maintain a supportive external environment, to manage human resources and to ensure consistency in systems and operations. An important component of the analysis of statistical systems will be a review of organization and management, using these headings. **Case Study 4** provides an example of an organization and management review for a statistical agency in Africa.

5.2.3 Human resources

The human resources of the statistical system, the people who work for the component organizations and the skills and expertise they possess represent the most valuable and often the scarcest resource. To be effective a modern statistical system needs a wide range of skills and expertise including:

- General management;
- Financial management;
- Human resource management;
- Technical statistical analysis;
- Survey design and management;
- Cartography;
- Communications, publications and design;
- Computer systems analysis and programming.

The analysis of the human resource development needs of a statistical agency will start with a summary of requirements, determined by current and planned activities and targets, schemes of service which set the qualifications required for staff at different levels and the analysis of strengths and weaknesses. A human resource development strategy and training needs analysis will then match the current situation against requirements, with an identification of priority areas for investment. **Case Study 5** gives an example of a review of training and human resource development needs in an African statistical system.

5.2.4 Infrastructure and equipment

The main functions of a statistical agency are data collection, data processing and analysis, and dissemination of statistical products in different formats. Infrastructure and equipment need to be adequate to meet the needs of these tasks, with particular emphasis on data handling and processing. Because poverty-related data are derived from household and other types of sample survey, based on direct enumeration, to meet the needs of the PRSP the statistical system also needs to have access to adequate infrastructure and equipment to support these kinds of surveys.

Modern computer technology has the potential to substantially increase the efficiency of a statistical agency and to reduce costs. In particular it provides opportunities for reducing delays in data processing, for dramatically reducing the cost of data dissemination through the use of technologies such as the Internet and CD-Roms and for expanding the scope for linking different data sets together.

5.2.5 Management systems

The ways a statistical agency is managed, including the mechanisms for setting goals, measuring progress, assessing staff performance and communicating at all levels have important impacts on performance and outputs. Box 3 indicates some of the areas that need to be addressed.

5.3 The external environment for statistics

As illustrated in Figure 2, the effectiveness of a national statistical system and the extent to which it can meet the needs of the PRSP process is a factor of both the external environment in which it operates and its internal organization. In this section we look at the key components of the external environment.

5.3.1 Statistical legislation

The rules under which a statistical system operates are usually spelled out in legal statutes and administrative rules. Although each country will have its own set of rules and principles, there are a number of general principles that have been built up from experience over the last century. They have also been discussed and agreed internationally.

and are valid for a wide range of different environments³. In summary, the governing principles and practices for operating an effective statistical agency are to:

Box 3. Changing Management Values

In common with other government departments, many statistical agencies in developing countries are run with a top-down management style. While agencies have taken on board many aspects of modern management, including the formulation of a clear vision of what they would like to achieve, the achievement of this vision does require managers to behave differently so that important changes can be implemented. It is not an easy thing to empower staff to take responsibility at the operational level. Empowered staff can make suggestions, openly disagree with management decisions and demonstrate skills and innovations that their managers may not have. It is easier to run a 'normal' bureaucratic public sector organization where directives and instructions are not questioned and the staff does not expect to be listened to.

If statistical systems are serious about making profound changes, however, they will not only have to occupy themselves with changing some systems and products, but will also have to take on board the need for changes to the organizational culture. Managers will need to be assisted to manage change of this nature and to actively drive such changes. They will need both 'classroom' based training and on-the-job advice.

The values an organization holds as important are demonstrated, not only through the management style, but also by the way things are done. If staff are valued, then they will be provided with reasonable working conditions. If customers are valued, then products will be accessible and will meet a real demand. If resources are valued, then equipment and the environment will be maintained before they fall into disrepair. Managers and staff consistently display organizational values by their everyday behavior. What is being suggested here, therefore, is that putting change into effect will require a sustained commitment by senior management. Progress will have to be demonstrated by action on the ground and not just by pronouncements from on high.

- Maintain a relationship of mutual respect and trust with those who use a statistical agency's data and information. In particular, it is essential that the agency maintains credibility for itself and its products. They must be objective and be seen to be free of political interference and manipulation. While the national statistical agency must be accountable for its operations and for the resources it uses, in many models it may operate as an autonomous unit to carry out its charter
- Maintain a relationship of mutual respect and trust with those who supply data and with all data subjects whose information it obtains. It must ensure appropriate confidentiality of individual data and inform respondents that individual records are not to be made available to other agencies for any other purpose.
- Maintain close contact with users and policy analysts in planning its statistical program and activities.
- Widely disseminate data and be open about the data provided and the means by which they are collected.
- Provide information relevant to issues of public policy.
- Commit to quality and scientific and professional standards to facilitate a correct interpretation of the data. Statistical agencies are entitled to comment on erroneous interpretation and misuse of statistics.
- Support professional advancement and training of staff.
- Establish an active research program.

³ **Technical Note 9** sets out the Fundamental Principles of Official Statistics adopted by the United Nations

Most countries have a formal statistical law that describes the structure of the national statistical system, spells out the responsibilities and functions of a central statistical agency and also governs the relationships between data suppliers and users, including the provision of individual information, the rules for the obligatory supply of information, and guarantees of confidentiality and non-disclosure. These aspects of the law are common to the statistical legislation in almost all countries. In a number of cases, however, especially where the statistical agency has gone through some kind of recent restructuring, for example, where it has been set up as an independent agency, the law has a number of additional clauses. Key components of modern statistical legislation include the following types of provision.

- Some guarantee that the statistical agency can publish information free from political interference, subject to the need to meet normal professional standards.
- Some requirement on the statistical agency to publish and disseminate information, either free or for some charge. This may include a requirement for the agency to prepare and publish an advance publication calendar that says what is to be produced and when.
- Some guarantee of the independence of the statistical agency from political control so that the management has the freedom to publish information as it sees fit, subject to the need to account for the use of public resources and to meet professional standards. The legislation may establish, for example, that the head of the statistical agency may not be sacked except in specific circumstances and with the agreement of some external body.
- The setting up of a process so that the statistical agency is required to account for its actions and outputs on a regular basis. This may involve setting up a statistical commission or perhaps requiring an annual report to be tabled in parliament.

Some examples of modern statistical legislation in different countries are provided in **Case Study 6**. In the short-run, it may not be easy to revise the statistical legislation; such a process needs careful planning and will involve widespread consultation with the main stakeholders, discussions with parliamentary draftsmen and the allocation of parliamentary time. In circumstances, however, where the legislation is out of date, where the penalties are unrealistic and where the structure of the system is being reviewed it will be important to go through the legislation and identify where changes are needed.

5.3.2 Budgets

Poverty related statistics are a public good and consequently most statistical activities are financed from government revenue and financial resources are allocated through the budget. The capacity of the statistical system, therefore, is determined to a large extent by the level and stability of the financial resources it receives. Because full cost-recovery from users is not possible, the ability of the system to meet the needs is determined by how successful managers are in getting resources in competition with all the other demands on the budget. In many countries statistical systems are in effect in vicious cycle, where because resources are limited, the output does not meet needs and because of this political support for increasing resources is not forthcoming.

The PRSP is an important opportunity to break out of this vicious cycle. By focusing on a major area of statistics, with associated political and civil society support, it provides the opportunity for the managers of the statistical system to make the case for increased funding and for a sustained increase in budget resources. If this is to be successful, however, a number of things will be needed to be in place.

- Because the value of statistics generally increases when consistent data are collected over time, it is important to develop a budgeting system that provides for the sustained operation of data systems. Managers need to develop programs that can be financed within the context of the medium-term expenditure framework (MTEF).
- Budget resources need to be used efficiently to produce agreed outputs. The more successful national statistical systems are ones where increased resources are seen to result in improved outputs. In a number of countries statistical agencies now have performance agreements with the treasury where resources are provided in exchange for an agreed set of core statistics (see **Case Study 7** for some examples).
- While donor funds can be and are important for statistical activities in many countries, the existence of a large number of separate donor funded projects outside the budget can have a destabilizing effect and can lead to reduced central support in the future. Over time, the number of stand alone statistical projects financed from aid funds is likely to reduce and more assistance is likely to be provided through the central budget or as part of sector-wide projects. Managers of statistical systems, therefore, need to be aware of this trend and to improve their budget management.

5.3.3 Accountability and reporting

A major requirement on statistical systems is to be accountable for the resources they use and to provide regular reports on activities, outputs and future plans. Since the main resources used to finance statistical activities are provided from tax revenue, this accountability and reporting must be open, transparent and regular. In part this is the other side of the performance contract discussed previously. In return for adequate resources the managers of statistical systems must provide information on how those resources have been used, what products have been produced and what plans are in place to improve performance.

A number of countries have adopted different procedures for improving the accountability and reporting of the statistical system. Some examples include the following.

- The head of the statistical agency is required to make an annual report to parliament, setting out the targets that have been set and how the agency has performed.
- The agency reports to an independent statistical commission or board, which has the responsibility to ensure that professional standards are being observed and that resources are being used efficiently.

5.3.4 Relationships with users and customers

A statistical agency provides products and services for a number of different users or customers. In most countries there is no effective market for official statistics, prices do not convey very much information and the managers of the agency need alternative mechanisms for setting priorities and for identifying where investment and improvements are needed.

In this situation, customer relations are very important and in the context of the PRSP it is vital that processes are established that provide for regular consultation between data providers and users. An important starting point is for statistical agencies to know who their customers are, but beyond this mechanisms need to be established that provide for regular consultation and exchange of views. **Case Study 8** provides some examples of good practice in this area.

5.3.5 Improving the public image of the statistical system

Ultimately, a statistical agency will only be effective if it is able to develop and sustain a good public image, where the data it produces are seen to be objective, reliable and

useful and where resources are seen to be used effectively. In many countries, the opposite picture is all too common, the products from statistical agencies are not trusted, are seen as being late, inaccurate and possibly subject to political manipulation. Changing this image can be a long-term task, but the PRSP provides an important opportunity, both to raise the image of statistics and to improve it.

Other actions that have helped to improve the image of statistics in different countries include:

- Improving public confidence by being more open about methods, techniques and how resources are being used;
- Using public relations campaigns linked to specific events such as a population census to emphasize the need for reliable, trustworthy and timely data;
- Improving the design and structure of statistical reports, abstracts and other products to make them easier to use;
- Providing training and special briefings for data users to help them use the data more effectively;
- Providing briefings for journalists and other media workers;
- Using external processes such as the GDDS to provide more information to users and to provide a framework against which progress can be assessed.

6 Developing a Poverty-Focused Information Strategy

6.1 Overview

Chapter 3 (Monitoring and Evaluation) provides a review of the steps required if designing an outcome monitoring system and an evaluation strategy for the PRSP. In this section we will look at the steps required to put together a poverty-focused information strategy, with a specific focus on identifying both short and long-term interventions to develop and strengthen the statistical system. Here the emphasis is on improving the supply of data and indicators to meet the needs of the PRSP that have been identified elsewhere.

The strategy needs to be built on two main building blocks. First, the current and expected future demands for information and indicators that will be generated by the PRSP and second, the assessment of the strengths and weaknesses of the statistical system outlined in the previous sections of this chapter. In particular the strategy should build on existing strengths, address specific weaknesses and identify the important trade-offs between what is desirable and what is feasible are to be resolved.

In developing the strategy, it also needs to be born in mind that the PRSP will not be the only source of demand for statistical data in a country. The national statistical system must continue to meet demands for information and indicators from other sources, including national and local government, players in both national and international markets, civil society organizations, the media and international agencies. While poverty reduction is usually the main priority for national development, nevertheless the information strategy for the PRSP should not be developed at the cost of ignoring the needs for other kinds of data.

6.2 Ownership and participation

6.2.1 Stakeholders

One of the most important aspects of the design and development process is the need for a participatory approach in each phase of the process, one in which all stakeholders are involved. This approach could significantly improve the efficiency and effectiveness of the design process as well as the quality of the output. It also enhances the sense of responsibility for, and ownership of, the system designed. To achieve this, the stakeholders need to be clearly defined and their involvement coordinated.

In general, the stakeholders will be the users of statistical data together with the organizations that allocate and provide the financial resources. In Figure 1 we identified the users of statistical data as including:

- Legislators, including members of national parliaments, regional and local councils, etc;
- Government planners, analysts and other officials working at the national and local levels, including the staff of quasi-autonomous agencies such as central banks etc;
- Lobbyists and people working for organizations such as NGOs, community groups and similar bodies;
- Researchers;
- The media, including the press, television and radio journalists;
- The general public;
- Actors in both domestic and international markets, especially managers of businesses;
- Representatives of donors, and the international agencies.

Other stakeholders will include the agencies responsible for financing statistical activities, especially the finance ministry and bodies responsible for budget management.

6.2.2 Participatory approach

In just the same way that the PRSP itself is developed through a participatory process, if the poverty-focused information strategy is to have wide acceptance and ownership, then it is important that the process that develops the strategy is open, inclusive and participatory. There are a number of ways in which this might be done and **Case Study 9** provides some examples of how information strategies have been developed in different countries.

Typically, the detailed work of developing the strategy will be overseen by a some kind of national steering committee that includes representatives of the main stakeholders. It will be important to ensure that participation in this committee is at a senior enough level to ensure commitment by all the key players. It has also been found important in many countries to ensure that this committee is not just made up of government officials, but also includes representatives from other sectors such as civil society organizations and academia.

6.3 Developing the strategy

6.3.1 The overall approach

In line with the PRSP as a whole, the information strategy has four main components:

- Identifying where we are starting from, the assessment of the strengths and weaknesses of the statistical system as described earlier;
- Setting goals and targets, which set out what the system is going to achieve within an agreed time-frame;
- Deciding on priority action areas to achieve the targets;
- Putting in place mechanisms to monitor progress and to keep all stakeholders informed.

An important decision that will need to be taken at an early stage is what time-frame should be used for the strategy? On the one hand, it will be important to concentrate on short-term needs as the PRSP has a specific one to three year time horizon, especially where this is linked to the HIPC debt-relief process. On the other hand, however, many statistical activities take place over a longer cycle, with population censuses, for example, usually only carried out once every ten years. In order to deal with both aspects it is recommended that countries develop a sequenced information strategy that has both short and long-term components. In general, the short-term focus will be on meeting the immediate data needs of the PRSP, mainly through making better use of existing data systems and helping to improve dissemination and analysis. In the longer-term, the emphasis is likely to be more on making appropriate investments to develop new data systems and to address constraints in human resources, equipment and management systems. An example of such a sequenced information strategy is set out in **Case Study 10**.

6.3.2 Short-term priorities and actions

The short-term in this context is likely to cover a period of one year. Within this kind of time horizon it is unlikely that the statistical system will be able to design, implement and disseminate information from a major new information system. The planning cycle for a major new data initiative such as a living standards measurement study (LSMS) or a household income and expenditure survey is likely to be in excess of two years from starting planning to the dissemination of the results. In the short-term, therefore, the emphasis is expected to be much more on making existing data processes work better than on setting up major new data collection processes.

The key requirement is to meet the immediate needs of the PRSP for indicators for the paper itself and to monitor progress through annual reports and at formal reporting points such as the HIPC completion point. At the same time, however, improving existing data systems for example, by reducing delays in publications, by strengthening analysis, and by widening dissemination can help to improve the image and public standing of the statistical system and can help to build up a constituency for more investment in the future. Many national statistical systems in poor countries are in a vicious circle where their output is constrained by a lack of resources, but there is little support to increase resources because the output is so limited. Concentrating on improving the quality of a few important data series can result in some "quick wins" that can help to change public perception and can change the vicious to a virtuous circle. In this scenario the statistical system is seen to be responsive to demand, to be improving

both quality and efficiency and consequently there is widespread support for increased investment.

The kinds of short-term improvements in data quality that could be achieved in many countries include:

- Improving data processing of administrative data in key sectors such as health and education to reduce delays in making information available to users and also to improve the reliability of the data;
- Making survey data more easily available to researchers so that key questions on targeting and resource allocation can be addressed;
- Improving the design of statistical publications to make them more accessible to users and including more analysis and interpretation for non-specialist users;
- Disseminating data through the Internet and in electronic format to reduce delays in the printing of reports and abstracts;
- Publishing preliminary results from surveys and other data collection processes so that important data can be made available sooner;
- Putting together a database of important data series from different sources;
- Publishing more information about data sources and methods (for example, the GDDS metadata) and making sure that users are kept informed about changes in methods coverage, etc.

Case Study 11 gives some examples of quick wins that have been achieved in some PRSP countries.

6.3.3 Longer-term investments in statistical capacity

In the longer-term, for perhaps two to ten years ahead, the focus of the strategy is likely to be wider, covering most aspects of statistical development. It is suggested that the strategy will need to cover the following areas.

- **Improving data collection and processing systems and methods.** It is suggested that countries should develop a strategic program for data collection setting out priority areas for censuses, sample surveys and other field-based statistical enquiries. The aim is to establish a program that reflects the priorities of the stakeholders and is not simply a reflection of donors' needs. With such a program it is then possible to develop capacity for design, implementation and data processing with an agreed timetable for publication and dissemination. While it may still be desirable to include some capacity in the program for responding to ad-hoc requests, the main aim is to ensure that all stakeholders are aware of what is planned and to ensure the national priorities are not hijacked by donor agencies or others just because they have immediate financing. Such a program should identify specific milestones for monitoring progress.
- **Improving organization, management and strategic planning.** Under this heading the emphasis is on improving management and organization of the statistical system. The aim is to address the weaknesses identified in the assessment of internal organization and management. A key part of improving management is to strengthen the processes for financial management and budgeting.
- **Developing human resources.** Here the focus is on developing an appropriate human resource development strategy that improves internal and external communications, makes best use of scarce skills and expertise and provides for the regular upgrading through training and education. The human resource development plan

should be integrated with the strategic plan and with management processes. The aim should be to ensure that each member of staff is aware of what he or she is required to achieve, how they are to be assessed and what resources they can call upon to support their personal development.

- **Strengthening the statistical infrastructure and equipment.** This component of the strategy is concerned with the development of a program to upgrade the facilities and equipment of the statistical system so as to improve capacity and to take advantage of new information technology. The strategy should cover both hardware (computers, networks and communications facilities), software and the capacity of staff to install, use and maintain the equipment. Other aspects include equipment to support data collection, including transport, data recording and data capture.
- **Improving statistical products and public relations.** The focus here is on improving relations with customers and users, through better communications and then translating this into improved products and outputs. This aim is to improve the format and design of products making them more accessible to users and facilitating the use of the data for planning and decision making. Modern computer and printing facilities provide new opportunities for customizing the design of products much more to specific users. The use of electronic dissemination and the Internet can also dramatically reduce the cost of publication. In line with these developments statistical agencies will need to develop appropriate release and publication policies. Factors that will need to be considered include: how to formally release data so that all users can have access as soon as possible and what charges, if any, should be imposed.
- **Institutional arrangements.** As the complexity of the statistical system develops, then it may well be necessary to review the organizations structure. Within the strategic plan, it may well be useful to include specific targets for institutional development. In a number of countries changes have been made to in effect make the central statistical agency independent of direct political control. While the agency is still part of central government, it is no longer formally part of an individual ministry and may well have similar status to the central bank. The main advantage of such a move is to reduce the possibility of political manipulation of statistical output and to improve public confidence in the various products. Such a change can also help to increase the openness and accountability of the system, for example, by providing for an independent review and institutionalizing the reporting process. **Technical Note 8** provides some notes on different mechanisms for independent review and monitoring of the statistical system
- **Legislation.** Major changes in the organization of the statistical system may well require new legislation, but even if this is not envisaged it may well be useful, in the context of the strategic plan, to review existing statistical legislation to see if it needs to be brought up to date. Changing legislation is not easy and takes some time to plan, so it is important to ensure that the timetable is well organized. As well as the traditional aspects of statistical legislation, factors that should also be considered include protecting the independence of the system from political interference, providing for a regular process of reporting and accounting for the use of resources and ensuring that the system is obliged to publish data on a regular basis.
- **Budgeting.** The operation of a statistical system requires that adequate financial resources are made available through the budget to meet the running costs as well as to provide for investment. In a number of countries governments are moving to-

wards a system of medium-term expenditure frameworks, which set out the course of public expenditure over a multi-year period. In this context, the strategic plan should set out how the statistical system will operate. It may be useful, for example, to consider establishing a performance contract between statistical agencies and the treasury where specific statistical products are provided on a regular basis in return for an agreed budget provision.

6.4 International and donor support

6.4.1 Overview

In general, there seems to be increasing interest from the donor community in supporting data related activities, particularly in the context of poverty reduction and PRSPs. All donors subscribe to the international development goals and many have specific programs to support capacity building in statistics. In recent years there has been increasing interest in measuring the impact of poverty reduction activities and this is now being translated into specific budget, program and project support for statistics. In this section, therefore, we look at some of the donor programs and other initiatives in this area.

6.4.2 PARIS21

PARIS21 is a new international process by a global consortium of policy makers, statisticians, and users of statistical information in support of development. It is not a new international agency, rather it works through existing agencies. It aims to build statistical capacity as the foundation for effective development policies, by helping to develop well-managed statistical systems that are appropriately resourced. In the longer term, it aims to help to promote a culture of evidence-based policy making and monitoring in all countries, but especially in poor developing countries. This in turn will serve to improve transparency, accountability and the quality of governance.

The consortium promotes and assists strategic planning to meet the information needs of national development frameworks. It is a source of international expertise and encourages South-South co-operation. It facilitates lesson learning and the sharing of best practice. It fosters more effective dialogue and co-ordination in international technical co-operation. It will create and disseminate advocacy materials. PARIS21 aims to raise awareness and demand for statistics and analysis. While the consortium has only limited funds for regional workshops, its membership includes both bilateral and multilateral development agencies. The aim is to build on existing national, regional and international work and to generate a real increase in resources devoted to building statistical capacity. PARIS21 acts as a catalyst, stepping aside as the development partners take this work forward on a country-by-country basis.

PARIS21 members include people from governments, regional, and international organizations, professional bodies and academic institutions. In November 2000 there were almost 400 members from over 100 countries representing 196 agencies. Over two thirds of country members are from developing countries. Membership is open to anyone with practical experience and a wish to collaborate to improve policy-making through reliable, pertinent statistics.

The consortium has established a number of task teams to work on specified areas and also organizes both regional and national meetings. Further information can be obtained from the secretariat based in Paris, within the Development Co-operation Directorate of the Organisation for Economic Co-operation and Development.

6.4.3 World Bank Trust Fund for Statistical Capacity Building

The Trust Fund for Statistical Capacity Building (TFSCB) is a worldwide technical assistance program managed by the World Bank on behalf of donors to help member countries improve their statistical systems. TFSCB helps member countries realize their full potential to produce, process and disseminate timely, reliable and comprehensive data for economic and social policy making. The trust fund plays a key role in promoting the PARIS21 agenda and in mobilizing resources for relevant projects. It also enhances the coordination and strengthens the partnership among the key players in international development arena as well as among technical assistance providers in the area of statistics.

TFSCB supports global, country and region specific activities (including technical advice, workshops, publications, training, and re-training and project follow-up supervising and advisory services). Its main focus is on: (a) assessing/reviewing the statistical capacity needs of member countries; (b) developing a strategic plan for statistical development linked to the PRSP and other national development strategies; (c) restructuring or modernizing the statistical system of the country so that it can eventually become self-sustaining.

6.4.4 Other source of assistance

A number of bilateral and multilateral agencies provide support and assistance for statistical capacity building. Some of the agencies that are active in the field include:

- IMF provides technical assistance programs and training in economic, financial and monetary statistics and supports the use of the General Data Dissemination System (GDDS) as a framework for setting priorities for development;
- The UN Statistical Department coordinates work on international standards and classifications.
- The UN regional commissions help to coordinate statistical developments in their regions and to promote good practice.
- The UN specialized agencies support statistical development in their areas of concern, including UNFPA (population), UNESCO (education), FAO (agriculture and natural resources), WHO (health), UNEP (environment), UNICEF (well-being of children) and others.
- The World Bank lending program and other grants provide support for statistical activities. The World Bank Institute provides training in a number of related areas, in particular through the Poverty Analysis Initiative;
- The European Commission with statistical activities being coordinated by Eurostat and focusing on regional cooperation and the potential for action in the light of the Cotonou agreement with the ACP states;
- A number of bilateral donors provide support for statistical capacity building, countries active in this field include: Canada, France, Germany, Italy, Japan, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom and the United States (through USAID as well as international training programs).

In common with other government departments, many statistical agencies in developing countries are run with a top-down management style. While agencies have taken on board many aspects of modern management, including the formulation of a clear vision of what they would like to achieve, the achievement of this vision does require managers to behave differently so that important changes can be implemented. It is not an easy thing to empower staff to take responsibility at the operational level. Empowered staff

can make suggestions, openly disagree with management decisions and demonstrate skills and innovations that their managers may not have. It is easier to run a 'normal' bureaucratic public sector organization where directives and instructions are not questioned and the staff does not expect to be listened to.

If statistical systems are serious about making profound changes, however, they will not only have to occupy themselves with changing some systems and products, but will also have to take on board the need for changes to the organizational culture. Managers will need to be assisted to manage change of this nature and to actively drive such changes. They will need both 'classroom' based training and on-the-job advice.

The values an organization holds as important are demonstrated, not only through the management style, but also by the way things are done. If staff are valued, then they will be provided with reasonable working conditions. If customers are valued, then products will be accessible and will meet a real demand. If resources are valued, then equipment and the environment will be maintained before they fall into disrepair. Managers and staff consistently display organizational values by their everyday behavior. What is being suggested here, therefore, is that putting change into effect will require a sustained commitment by senior management. Progress will have to be demonstrated by action on the ground and not just by pronouncements from on high.

6.5 Monitoring progress with the strategic plan

6.5.1 Indicators of statistical capacity

The process of developing a strategy to strengthen the statistical system was set out in Section 6.3. A key part is to identify specific goals, targets and milestone that can be used to monitor progress. It is suggested that this can be done using the short and long-term actions identified in sections 6.3.2 and 6.3.3 together with specific targets for strengthening organization and management as described in section 5. Here it is useful to identify changes in terms of internal organization, which can largely be implemented by management and modifications to the external environment, which will require the support and involvement of other stakeholders.

Specific indicators and milestones will need to be developed for each country and for each main participant in the national statistical system. In terms of data outputs and improved dissemination, the GDDS provides a framework for documenting priorities for improvement and setting a time frame for action. Possible indicators of progress could include:

- Improvements in specific data series in terms of timeliness, coverage or level of disaggregation introduced and implemented;
- New data series developed and published;
- International standards for specific data items met;
- New data products produced, for example, presenting existing data in new ways, or including new types of analysis and discussion;
- Response rates for specific surveys improved.

More general targets for data dissemination might include:

- A publication calendar, with specified release dates for different series introduced and adhered to.
- New methods of dissemination introduced, including the release of data through the Internet and the publication of detailed information in electronic formats.

Targets and indicators for improvements in organization and management will inevitably vary from country to country, but the areas to be considered may well include:

- Formal planning processes developed and introduced including, for example output-focused budget process with individual goals and targets for staff
- Human resource management systems strengthened, with a regular training needs analysis and an annual training and human resource development plan;
- Internal communications and team building strengthened.

Externally, targets will need to reflect the time required to involve stakeholders and manage the change process. Areas of concern may include:

- Regular consultation between users and providers of statistical data set up;
- Processes for getting regular feedback from customers established;
- Statistical legislation updated;
- Links with the media developed and improved.

6.5.2 Reporting and accountability

Here the focus is on establishing formal processes for reporting on the progress achieved with implementing the strategic plan and on ensuring transparency and accountability in the use of public resources. Some mechanisms to improve accountability and reporting were described in Section 5.3.3. Here the emphasis is on putting these into effect. In addition to formal annual or other reports, statistical agencies can issue periodic press releases for dissemination through newspapers, radio and television and the Internet. In this way, stakeholders in all parts of the process are kept informed of progress in statistical development and of the availability of new or revised data sets, aggregates, and indicators. This open dialogue could promote statistical awareness and interest in the wider community, which in turn could encourage cooperation in responding to statistical inquiries and build confidence in the national statistical system.

Useful Internet Addresses

The United Nations Statistics Division provides a wide range of statistical outputs and services for producers and users of statistics worldwide.

<http://www.un.org/depts/unsd/index.html>

UNECA is the regional arm of the United Nations, mandated to support the economic and social development of its 53 member States, foster regional integration, and promote international co-operation for Africa's development. Established in 1958 and based in Addis Ababa, Ethiopia, ECA is one of five regional economic commissions under the administrative direction of the UN Headquarters.

<http://www.uneca.org>

ESCAP is the main organization for United Nations activities in the Asian and Pacific region, located in Bangkok, it is the largest of the five UN Regional Commissions, comprising 52 members and 9 associate members and representing some 60 per cent of the world's population, or 3.8 billion people.

<http://www.unescap.org>

ECLAC, which is headquartered in Santiago, Chile, is one of the five regional commissions of the United Nations. It was founded for the purposes of contributing to the economic development of Latin America, coordinating actions directed towards this end, and reinforcing economic relationships among the countries and with the other nations of the world. The promotion of the region's social development was later included among its primary objectives.

<http://www.eclac.org/English/statistics/statistics.htm>

The Economic Commission for Western Asia (**ECWA**) was established by Economic and Social Council resolution 1818 (LV) of 9 August 1973 with objectives of enhancing the sustainable development of ECWA member States, promoting regional co-operation and policy co-ordination among member States, and highlighting the linkages among the economic, social, cultural, technological and environmental dimensions of development.

<http://www.escwa.org.lb/escwa/divisions/statistics.html>

FAOSTAT is an on-line and multilingual databases currently containing over 1 million time-series records covering international statistics in the following areas: food balance sheets, fertilizer and pesticides, land use and irrigation, forest products, fishery products, production, trade, population, agricultural machinery and food aid shipments

<http://apps.fao.org>

ILO regularly collects, compiles and publishes basic labor statistics, which progressively expanded in accordance with its resources. The subjects of basic labor statistics include the economically active population, employment, unemployment and underemployment, average earnings and hours of work, time rates of wages and normal hours of work, labor cost, consumer price indices, household expenditure and household income, occupational injuries and occupational diseases, and industrial disputes (strikes, lockouts and other action due to labor disputes).

<http://www.ilo.org/public/english/bureau/stat/index.htm>

The International Monetary Fund's Dissemination Standards Bulletin Board (DSBB) provides access to the Special Data Dissemination Standard (SDDS), the General Data Dissemination System (GDDS), and the Data Quality Reference (DQRS) sites.

<http://dsbb.imf.org>

The World Bank Data Group provides national statistics for countries and regions including data profiles and country at a glance tables, as well as methods, modeling tools, and technical assistance in statistics.

<http://www.worldbank.org/data>

Health and health-related statistical information from the **WHO**.

<http://www.who.int/whosis>

EUROSTAT is the Statistical Office of the European Communities situated in Luxembourg. Its task is to provide the European Union with statistics at European level that enable comparisons between countries and regions.

<http://europa.eu.int/comm/eurostat>

The International Statistical Institute (ISI) is one of the oldest international scientific associations functioning in the modern world. It was established in 1885 and therefore celebrated its Centenary in 1985. The Institute is an autonomous society which seeks to develop and improve statistical methods and their application through the promotion of international activity and co-operation.

<http://www.cbs.nl/isi>

Statcommittee of the CIS was established in accordance with the decision of the Heads of Governments in December 1991 for coordinating activities of statistical organizations of the CIS countries, developing and implementing an unified statistical methodology on the basis of mutual consultations, securing comparability and continuity of statistical elaboration, facilitating wide-scale information exchange in the framework of the CIS, organizing seminars and employing other forms of rendering assistance to national statistical services. The Committee is entrusted with creating and maintaining common statistical database.

<http://www.cisstat.com>

Organization for Economic Co-operation and Development (OECD)

<http://www.oecd.org/std>

The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments. The goal is to help producers of goods and services, exporters, and importers conduct their business.

<http://www.wto.org>

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