

C-21: Some Quantitative Tools and Methods

Citizen Report Card or Citizen Score Card: A type of survey that measures the performance of public services. It can measure access, availability, reliability, quality, and satisfaction of those services; as well as providing information with respect to the responsiveness of the service provider, hidden costs, corruption, and willingness to pay for services. They can be used to collect citizen feedback on public services from the users of that service as well as to assess performance of individual service providers or compare performance across providers.

Cost benefit analysis: Measures both inputs and outputs in monetary terms to assess whether or not the costs of an activity can be justified by the outcomes and impact. This can be used to identify projects which offer the highest rate of return on investment and informs decisions regarding efficient resource allocation.

Cost-effectiveness analysis: CE analysis refers to the evaluation of alternatives according to both their costs and their effects with regard to producing some outcome. CE analysis often estimates inputs in monetary terms and outcomes in non-monetary quantitative terms (such as improvements in student reading scores). CE is used to compare projects addressing the same outcome to identify which offers the greatest benefit at the lowest cost and it informs decisions regarding efficient resource allocation.

Knowledge, Attitudes, and/or Practices Tests: Primarily used to assess knowledge and facts in training and education programs. These often standardized tests are widely applicable and sometimes can be modified to become a type of structured observation or index.

Policy change indices: Comprised of milestones and for policy reform, this index allows the evaluator to quantify these changes. Such a scale both defines how the change or components will be rated as well as what the milestones mean by terms such as 'fully implemented'. A Policy Change Index will specify which policies are most critical to the strategic objective, and will identify critical milestones for the project prior to data collection.

Institutional Development Indices: A measure of organizational or institutional-level change in the form of a scorecard, checklist, or rating scale. This composite of scores allows the evaluator to track the level of development in an institution over time, based on a set of criteria and development levels defined prior to data collection. Such indices can measure administrative, technical, structural, and managerial components of a given institution.

Structured Observation Checklists: Protocols used to quantify specific program aspects. This includes the use of an issue-based observation form which determines before the observation precisely what will be observed over what time interval. Observers use this checklist to count events or instances, or a stopwatch to time activities. They may also use abbreviations and symbols to allow more room for collecting data.

Mini surveys: (or informal surveys) are a quantitative method for collecting program and beneficiary-related information quickly. They involve relatively small populations using brief questionnaires that focus on a limited number of variables. Though more rapid and lower cost to

conduct compared to sample surveys, the findings from informal surveys are generally less generalizable to the population being studied as statistical generalizability is not sought.

Population Surveys: When a survey is done of the total population, rather than a subset, it is called a census. Governments typically undertake large scale periodic household surveys and these can serve as important resources for secondary analyses.

Sample surveys: A statistically representative survey of a subset of a population which allows generalization to the whole population within a given area. Levels of statistical validity differ depending on the sample size as a percentage of the population. In constructing this type of survey, particular attention must be paid not only to the questions included, but also to how well the sample size reflects the population at large. Other applications of sample surveys pertain to geographic terrain or other non-human resources. There are several main types of sample surveys including:

- **Cross-sectional surveys** are used to gather information on a population at a single point in time. An example of a cross sectional survey would be a questionnaire that collects data on how project clients/beneficiaries feel about project services at a particular point in time. A different cross-sectional survey questionnaire might try to determine the relationship between two factors, like age or ethnicity of clients and their perceptions about project services.
- **Longitudinal surveys** gather data over a period of time. The researcher may then analyze changes in the population and attempt to describe and/or explain them. The three main types of longitudinal surveys are trend studies, cohort studies, and panel studies
 - **Trend Studies** focus on a particular population, which is sampled and scrutinized repeatedly. While samples are of the same population, they are typically not composed of the same people. Trend studies, since they may be conducted over a long period of time, do not have to be conducted by just one researcher or research project. A researcher may combine data from several studies of the same population in order to show a trend. An example might be to trace how graduates of the USAID EES courses progress in their evaluation related work over the next ten years.
 - **Cohort Studies** also focus on a particular population, sampled and studied more than once. But cohort studies have a different focus. For example, a cohort of EES graduates could be questioned in 2012 regarding their attitudes towards their evaluation practice in USAID. Five years later, the researcher could question another sample of 2012 EES graduates, and study any changes in attitude. A cohort study would sample the same cohort, every time. If the researcher studied the EES graduates of 2014 five years later, it would be a trend study, not a cohort study.
 - **Panel Studies** allow the researcher to find out why changes in the population are occurring, since they use the same sample of people every time. That sample is called a panel. A researcher could, for example, select a sample of EES graduates, and ask them questions on their evaluation work and competencies. Every year thereafter, the researcher would contact the same people, and ask them similar questions, and ask them the reasons for any changes. Panel

studies, while they can yield extremely specific and useful explanations, can be difficult to conduct. They tend to be expensive, they take a lot of time, and they suffer from high attrition rates. *Attrition* is what occurs when people drop out of the study.

- **Illustrative Survey Applications Used By USAID and other Development Agencies**
 - **Client Satisfaction Surveys.** Client satisfaction surveys (sometimes called Beneficiary Assessments) measure client perceptions of the quality, relevance, accessibility and responsiveness of services provided by USAID programs, governments, CSOs, or other service providers. Service providers use the survey findings to improve service delivery and sustainability. Citizen scorecard surveys are a specific variant of a client satisfaction surveys.
 - **KAPB Survey.** Knowledge, attitude, practices and behavior surveys measure changes in these areas in response to a specific intervention, usually outreach, demonstration or education. KAPB studies have been widely used and valued around the world for at least forty years in public health, water supply and sanitation, family planning, education and other programs. KAPB studies tell us what people know about certain things, how they feel, and how they behave.
 - **Multi-Topic Household Survey (or, Living Standards Measurement Survey):** A multi-subject integrated survey that provides a means to gather data on a number of aspects of living standards. They can cover areas such as spending, household composition, education, health, employment, nutrition, savings, and sources of income.
 - **Public Expenditure Tracking Surveys (PETS):** A survey which tracks the flow of public funds to determine the extent to which resources reach the targeted beneficiaries. They are often implemented as part of a larger service delivery and facility surveys, and focus on the quality of service, facilities, management, and incentive structures. They are often particularly used to gather information on units responsible for the delivery of social services, such as health and education. PETS examine the manner, quantity, and timing of releases of resources to different levels of government. They can diagnose problems and provide evidence on delays, efficiency wastes, and corruption.
 - **Social Capital Survey.** Social capital surveys are a form of attitudinal surveys designed to measure people's trust in other people and key institutions that shape their lives, as well as the norms of cooperation and reciprocity that underlie attempts to work together to solve problems (Grootaert, C, 2002. *Measuring Social Capital*, World Bank). These surveys may be especially important for USAID's work in fragile states because the causes of fragility often destroy existing forms of social capital and some programs may help to restore it.