The Household Survey as a Tool for Policy Change

Lessons from the Jamaican Survey of Living Conditions

Margaret E. Grosh
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(List continues on the inside back cover)
The Household Survey as a Tool for Policy Change

Lessons from the Jamaican Survey of Living Conditions
The Living Standards Measurement Study

The Living Standards Measurement Study (LSMS) was established by the World Bank in 1980 to explore ways of improving the type and quality of household data collected by statistical offices in developing countries. Its goal is to foster increased use of household data as a basis for policy decisionmaking. Specifically, the LSMS is working to develop new methods to monitor progress in raising levels of living, to identify the consequences for households of past and proposed government policies, and to improve communications between survey statisticians, analysts, and policymakers.

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The Household Survey as a Tool for Policy Change
Lessons from the Jamaican Survey of Living Conditions

Margaret E. Grosh

The World Bank
Washington, D.C.
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Abstract

The story behind the remarkable timeliness and policy impact of the Jamaican Survey of Living Conditions (SLC) is told here with emphasis on the reasons for its success and its shortcomings. The story holds lessons for other countries that wish to institute Living Standards Measurement Study surveys. The Jamaican Survey of Living Conditions was designed and instituted to serve as the monitoring mechanism for a multifaceted, multisectoral initiative to revitalize the social service delivery system in Jamaica. Key strategic choices made in the SLC's implementation resulted in clarity of purpose; timeliness as a priority; extensive adaptation to the local environment; a tutorial approach to skills transfer; active involvement of line ministries in the survey process; pursuit of multiple avenues of data analysis; and an effective mix of staff from both the operational and research complexes on the World Bank supervision team. The marginal dollar costs for survey implementation in Jamaica were quite low, but the costs in Bank staff time were quite high.
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I. INTRODUCTION

In January 1990, the Jamaican cabinet approved major changes in the Food Stamps Program based on recommendations from analysis of the Survey of Living Conditions (SLC) Round II. The field work for this second round of the survey was conducted in July 1989; data entry was done in August 1989; a preliminary report was completed in September 1989; in-depth analysis and recommendations for food stamp reform were completed in December 1989, and the government acted in January 1990. This tangible impact on policy making and program implementation followed on the heels of the preceding year's success in relevance and speed of information produced. In 1988, field work for the first round of the survey was conducted in August. In September, life on the island was disrupted for some weeks by Hurricane Gilbert, the most severe hurricane in the island's history. Nonetheless, at the end of October a preliminary report from the survey data with major policy conclusions was on the Prime Minister's desk.

The story behind the remarkable timeliness and policy impact of the Jamaican Survey of Living Conditions is told here with emphasis on the causes behind its success and its shortcomings. The story holds lessons for other countries that wish to institute Living Standard Measurement Study (LSMS) surveys. Section II describes the setting and need for the SLC. Section III describes the prototypical LSMS surveys, how the SLC adopted the prototype to Jamaica, and how the survey got started. Section IV relates the major strategic choices in the

1/This paper assumes that the reader is familiar with the Living Standard Measurement Study (LSMS) in general. Only brief background is provided in Section III. An excellent, brief summary of the LSMS is provided in Glewwe (1990). Ainsworth and Muñoz (1986) document the pioneer experience of the LSMS in Cote d'Ivoire. Grootaert (1986) describes and explains the Cote d'Ivoire questionnaire, which has served as the prototype.
survey's implementation and the advantages and disadvantages thereof. Section V details the costs involved, and Section VI concludes.

II. BACKGROUND

Macroeconomics. Jamaica is a small Caribbean island with a population of 2.2 million people. After steady growth of about 4 percent per capita per year since World War II, a prolonged and severe economic downturn began in the early 1970s, especially after the oil price shocks. Real per capita GDP fell by 18 percent between 1972 and 1980. The Manley Government (1972-80) sought to mitigate the welfare consequences of the deepening recession by expanding the government's participation in the economy, particularly by hiring more workers and by spending more on government services -- including social services. Without the resources to finance the growing government expenditures, the fiscal deficit soared from 5 percent of GDP in 1972 to 24 percent in 1976 and stood at about 18 percent in 1980.

When the Seaga government (1980-88) came to power, it endeavored to reduce the role of the public sector and to foster private economic activity with an export-oriented approach. The ensuing process of economic adjustment, aggravated by the international recession of the early 1980s, and particularly by the collapse of the bauxite and alumina markets, led to fiscal austerity programs, including cuts in public employment and in social services. Real current expenditures in social services fell by nearly 40 percent between 1983 and 1986; in health and in education the decline was about 32 percent. Investment in both sectors was greatly compressed. Water and electricity rates were raised several fold. By 1984, the Jamaican dollar had been devalued to about a third of its 1980 level, with attendant increase in the prices of many imported staple
commodities in this small island economy. GDP per capita was stable from 1980 to 1983, but fell a further 9 percent by 1985.

Human Resources Development Program. In order to address the decline in living standards caused by lower per capita income and the erosion of public social services, the Government of Jamaica formulated the Human Resources Development Program (HRDP) in 1987 and 1988. The HRDP includes policy reforms, programs and projects in health, education and nutrition, folding together both existing and newly created initiatives. The total cost of the HRDP as presented to the Consultative Group of multilateral and bilateral aid agencies in May 1988 was US$790 million over five years (Jamaica’s GDP in 1988 was US$2.3 billion). The HRDP is supported by government funds and financing from a number of bilateral and multilateral agencies. The World Bank’s support is a loan for US$30 million (JM-3111) called the Social Sectors Development Project.

The HRDP encompasses a comprehensive set of actions in the social sectors. In nutrition the program calls for the elimination of general food subsidies in favor of the expansion of targeted programs. The food stamp benefit levels have been raised three times under the program and the structure of the program changed. School feeding programs are being assessed, better targeted and expanded. In health, clinics and hospitals are being rehabilitated and re-equipped. The referral network is being strengthened. The pharmaceutical procurement and distribution system is being reformed. Management innovations are being made in budgeting and in contracting out housekeeping services in some hospitals. User fees in health facilities are being

2/Under the Seaga administration the HRDP was referred to as the Social Well-Being Programme. The new title was adopted and small adjustments in the overall package were made by the Manley administration when it came to power.
concluded. Programs to provide textbooks are being expanded to cover more subjects and more
related incentives are planned. In education, schools are being rehabilitated, expanded and
increased markedly. Nurse training programs have been expanded and shortened. Performance

(Figures 2-5)

Table 2.1

<table>
<thead>
<tr>
<th>Category</th>
<th>% 1991</th>
<th>% 1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>School (N = 73)</td>
<td>96%</td>
<td>94%</td>
</tr>
<tr>
<td>Not Food Stamp Receiving (N = 69)</td>
<td>11%</td>
<td>7%</td>
</tr>
<tr>
<td>Food Stamp Receiving (N = 17)</td>
<td>11%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Legend

1. Food Stamp Program
2. Food Stamp Eligibility
3. Food Stamp Participation
4. Food Stamp Enrollment

Note: The Food Stamp Program is the primary source of food assistance for low-income families. The program provides coupons that can be used to purchase food. The coupons can be redeemed at local grocery stores.

Box 1: Use of the SIC Class in the Food Stamp Program Design

...
Box 1: Use of the SLC Data in Program Design (continued)

There was also concern that because the nominal benefit levels and the income level used as the threshold for eligibility of the means tested part of the food stamps program had not been raised in five years, inflation had reduced the effectiveness of the program. PLOF commissioned studies using the SLC data which guided policy-makers in changing the income eligibility criteria and level of benefits (Anderson, 1989).

The minimum cost of an adequate diet was calculated per adult equivalent (see Box 4). This was then compared to the actual food expenditure for families falling below the poverty line and the shortfall calculated (see Table B.1.2.). This, together with analysis of household sizes, rural/urban differences, the relative prices of various foods, and other factors led to recommendations for the restructuring of the food stamp program, most of which were endorsed by the Government.

Table B.1.2
Shortfall in Household Food Expenditures Among the Poor

<table>
<thead>
<tr>
<th>Food Expenditure as % of Requirement</th>
<th>Annual Deficit in Food Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group poorest</td>
<td>33</td>
</tr>
<tr>
<td>8</td>
<td>44</td>
</tr>
<tr>
<td>7</td>
<td>52</td>
</tr>
<tr>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>5</td>
<td>67</td>
</tr>
<tr>
<td>4</td>
<td>74</td>
</tr>
<tr>
<td>3</td>
<td>82</td>
</tr>
<tr>
<td>2</td>
<td>89</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Anderson (1989)

Note: One third of the population was classified as poor. The groups used here are subgroups of the poor population.

subjects. Concurrently, rental fees are being introduced for secondary texts. A National Assessment Program which tests students' proficiency in math, English, science and social studies has been introduced to track school effectiveness. It will serve as the basis for performance bonuses to teachers. Actions in all of these sectors are coordinated in the HRDP and are to be monitored by the SLC.
III: THE SURVEY OF LIVING CONDITIONS

The SLC is modeled after the Living Standards Measurement Study surveys developed by the World Bank. This section first describes the LSMS itself, then the details of the Jamaican SLC are outlined, and finally a sketch of its institutional history is provided.

LSMS Prototype 3/

Objective of LSMS Surveys. The main objective of LSMS surveys is to provide household level data for evaluating the effect of many kinds of government policies on the living conditions of the population. Accordingly, LSMS surveys collect data on all major aspects of household well-being. In addition to making it possible to address issues in several sectors, collecting data on several topics from the same households has the added advantage of allowing for the analysis of the relationship between these different aspects of the quality of life. Examples of this include studies of the impact of education on nutrition, the effect of health on employment, and the relationship between income and fertility.

Even with the multisector nature of the survey, empirical research on the effect of government policies on households often requires a single broad indicator of household welfare. In most LSMS research on poverty, household welfare is measured by consumption. 4/ It is used because of its intuitive appeal and rigorous theoretical framework. Consumption is easily understood by most policy makers; consumption is what economists use as a stable, long-run

3/This section draws heavily on Glewwe (1990).

4/Of course, the LSMS data are rich enough to allow for the use of other indicators of household welfare (cf. Glewwe and van der Gaag, 1988).
indicator of a household's well-being; and accurate consumption data are usually easier to collect than accurate income data.

**Distinctive Characteristics of LSMS Surveys.** LSMS surveys differ from more traditional surveys such as the Consumer Expenditure Surveys, Labor Force Surveys, Demographic and Health Surveys, Contraceptive Prevalence Surveys, Nutrition Surveys, etc. There are four fundamental differences in approach.

First, while other surveys are primarily designed to measure different aspects of living standards, LSMS surveys collect information which allows one to analyze the determinants of the various outcomes. For example, governments will want to know what the enrollment rate among school-aged children is. Many traditional surveys will supply that. The LSMS's multisector design supports studies to help determine why some children are not in school — whether the most important factor affecting their enrollment is ill health or malnutrition, the distance to the nearest school, the fees charged, or the need for children to do domestic chores or to help supplement the household's income by working. Knowing this, the government can decide which programs and policies will be most effective in raising the enrollment rate. As a result, LSMS surveys are multi-topic surveys, covering all major aspects of a household's level of well-being.

Second, LSMS surveys tend to have smaller samples than many other surveys (The Côte d'Ivoire survey is 1600 households or 1.3 percent of the population, the Ghana survey is 3200 households, or 1.1 percent of the population). This allows effort and expense to focus on data quality, rather than quantity. The samples are large enough to support econometric analysis of many interrelations within the data, i.e. the analysis mentioned above. The small sample size, in
some cases, lowers the precision of the measurement of the level of indicators. The tradeoff can be illustrated with an example. In Côte d'Ivoire the confidence interval around the estimate of the school enrollment rate is 2 percentage points, which is wider than that accepted for some surveys. The issue, however, is not whether one is able to distinguish between enrollment rates of 53 percent, or 55 percent. In either case it is unacceptably low, and the government will wish to raise it. The important thing is therefore to gather complementary information that can help in designing effective policies.

Third, the need for policy relevant data implies that the data must be made available quickly. With this in mind LSMS surveys have pioneered the use of personal computers at all levels of survey operations, from design of questionnaire pages, to data entry and editing in the field, to analysis of the data. The use of the latest computer technology also allows for better quality control.

Fourth, LSMS surveys are flexible and adaptable to the particular characteristics and policy issues of any given country. The basic questionnaire can easily be supplemented with special modules focusing on specific information needs, a process made easier by the microcomputer technology.

The Questionnaires. The standard LSMS survey gathers data on three types of questionnaires: the household questionnaire, the price questionnaire and the community questionnaire.
The largest and most time-consuming of the three questionnaires is that for the household. It consists of 16 sections; sections 1-8 are filled in on the first visit to the household, sections 9-15 are filled in on the second visit, which occurs two weeks after the first, and section 16 (anthropometrics measurements) is filled in on both visits (see Table 1). An average visit to fill out half of the household questionnaire takes about 2-3 hours, though the questionnaire is designed so that no individual need be interviewed for more than an hour.

To create a comprehensive measure of household consumption, the household questionnaire gathers direct consumption data, which include all expenditures on food items and other daily expenditures (2 week recall), and non-food items (12 month recall), as well as the value of food produced and consumed by the household. About 70 items are usually included in the expenditure section. Information on housing and durable goods (e.g. cars, television, bicycles, cameras), is also collected to allow an estimate to be made of the yearly consumption value of the services which these goods provide for many years after their initial purchase.

In order to measure the true purchasing power of household incomes, it is necessary to have data on prices faced by households. The LSMS price questionnaire gathers data on the prices of staple foods, energy sources, medicines and agricultural inputs. It is filled out by visiting the local market or commercial establishments. Usually about 30 items are included.

The community questionnaire is administered in rural areas only. It collects information on local conditions, such as the nearest schools and medical facilities, common agricultural practices (including agricultural wage rates), transportation and communications, and other "infrastructure" data.
Field Work and Data Quality. The LSMS questionnaires are completed by several mobile survey teams, each of which contains one supervisor, two interviewers, one anthropometrist, and one data entry operator. The supervisor is in charge of filling out the community questionnaires while the anthropometrist measures the weight and height of all household members and fills out the price questionnaire. The household questionnaire is filled out by the interviewers, in two separate interviews two weeks apart.

After the first set of interviews are finished, the data from those half-completed questionnaires are entered on diskettes using personal computers which are programmed to detect inconsistencies and coding errors in the data. Before the interviewers return to the households for the second interview, they pick up computer printouts from the data entry operator and use them to correct any inconsistencies or errors from the first interview by going over the questions again with the households during the second visit. This greatly increases data accuracy.

The quality of LSMS survey data is further enhanced by heavy supervision at all levels. Most of the work of the supervisor is to check the work of the other team members. Every household questionnaire is checked by the supervisor both before and after data entry, and the work by the data entry operator and the anthropometrist is also constantly being checked by the supervisor. He also visits some of the households after interviewers have left to see if they performed their work correctly and were polite to the respondents. In addition, higher level officials make unannounced visits to the teams in the field to inspect their work, including that of the supervisor. Team members whose work is deficient are replaced by standbys who have received the same training as the team members.
The Jamaican Adaptation of the LSMS Method

The Survey of Living Conditions is designed to monitor and evaluate the HRDP in tandem with a system of institution-based statistics on social service delivery. As part of their participation in the United Nation’s Household Survey Capability Program, the Jamaican Government has included the SLC in their five year plan of household surveys. In designing the Jamaican SLC, a number of departures from the prototypical LSMS were made in order to focus the SLC on monitoring the HRDP, to build on the existing statistical infrastructure, principally the Labour Force Survey (LFS), and to complement other planned survey activities.

The LFS is an ongoing household-based labour force survey similar to those found in many countries, and gathering the minimum information using the standard terminology of the International Labor Organization. The questionnaire is short (about 15-20 minutes per
Box 2: The Bias in Point-of-Service-Provision Statistics

One of the reasons that a household survey was chosen as an appropriate tool to monitor the HRDP was that statistics gathered through schools and health clinics can only give information about those who are receiving services. The number of people who are not receiving services, their characteristics, and the possible reasons for their being missed are very important in the design and evaluation of social programs.

The case of measuring the rate of malnutrition can be taken as an illustration. In the table below, the malnutrition rate as estimated by data reported from public health clinics, and that from four household surveys (including two rounds of the SLC) are contrasted. In all cases, the clinic data underestimated the rate of malnutrition. For example, in the first quarter of 1985, the estimate of second and third degree malnutrition on the Gomez Scale was 3.9% from the clinic data, but 7.4% from the survey data. In all but one of the cases, the clinic-based estimates of malnutrition rate were outside the confidence interval of the rate as estimated by the household surveys. Worse, the amount of bias in the clinic-based estimate was quite variable. In 1985, for example, when the economic austerity measures had their most severe effects on household earnings, employment, and public health services; the degree of underestimation of malnutrition from clinic data was the most severe. If the 1985 nutrition survey had not been done, policy-makers relying on the clinic-based estimates of malnutrition would have thought that nutritional status was improving when the survey data showed that in fact, no progress was made between 1978 and 1985.

Table B.3.1
Comparison of Clinic and Survey Estimates
Combined Moderate and Severe Malnutrition

<table>
<thead>
<tr>
<th>Year</th>
<th>Clinic Estimate</th>
<th>Survey Estimate &amp; Confidence Interval</th>
<th>Clinic Data Underestimates</th>
<th>Survey Estimate by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Gomez II and III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1978</td>
<td>4.6%</td>
<td>7.3% ± 0.9</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>1985-Q1</td>
<td>3.9%</td>
<td>7.4% ± 0.9</td>
<td>47%</td>
<td></td>
</tr>
<tr>
<td>Combined WHO Moderate and Severe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989-Q3</td>
<td>6.4%</td>
<td>9.7% ± 2.6</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>1989-Q4</td>
<td>6.7%</td>
<td>7.3% ± 1.0</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Grosh, Fox and Jackson (1990).

Sample Calculations: In the first quarter of 1985, the clinic data showed Gomez Grade II and III malnutrition to be 3.9%, while the household survey showed it to be 7.4% using the same measure. The clinic data underestimated the survey data by 47% (1 - 3.9/7.4 = 0.47).

Note: The WHO Moderate and Severe categories include all children with weights under 80% of the reference standard, while Gomez II and III categories include children with weights under 75% of the standard. It is not accurate to draw a conclusion about the trend in the malnutrition itself when the measures used are not the same. Using the Gomez II and III categories, the household surveys show malnutrition rates of 4.4 and 3.2% in the third and fourth quarters of 1989.

household) and covers only simple labor force and demographic information. The survey began in 1968. Originally a semiannual survey, it was made quarterly in the early 1980s. The sample
contains 6000 households per round, with a one-half rolling panel design. A simple abstract of the results is published regularly, in a timely fashion. The survey is carried out by permanent staff of the Statistical Institute of Jamaica (STATIN), and adequate equipment, infrastructure, training, software, etc. are all available in STATIN. There is a staff of about 80 interviewers who conduct the LFS, and the Consumer Price Survey, as well as other special purpose surveys. In order to take advantage of the LFS’s infrastructure, the SLC is "tagged" to it. Each time the SLC is implemented a random one-third sample of the LFS (i.e., 2000 households) is drawn and those households are revisited with the SLC questionnaire about a month after they have been interviewed for the LFS. The LFS thereby substitutes for the roster and labor force modules of the prototypical LSMS. The whole of the SLC is administered in a single visit because it was deemed that visiting the households three times in close succession would induce respondent fatigue. This is particularly important because half of the LFS households are in the rolling panel and will be reinterviewed in the next quarter.

Because the SLC is only one interview, the content of the questionnaire had to be reduced from that of the prototypical LSMS. This was accomplished by eliminating the modules on migration, agricultural activities, non-agricultural household enterprises, fertility, and savings and borrowing. The selection of which modules to drop and which to maintain was based on the purpose of the SLC, i.e. to monitor the HRDP’s impact on health, education, and nutrition. The ability to monitor the relation between household production, time use and savings and their impact on poverty in its more general sense has been somewhat compromised by the omissions.

5/That is, half of the panel from the proceeding round are re-interviewed, and half of the panel is drawn from a fresh sample.
Box 5: Validity of SLC Data

One way of checking the validity of data from a new survey is to see how they compare with other sources for comparable concepts. This was done for the first two rounds of SLC data: Data from the 1982 Census, the 1984 Household Expenditure Survey, and the national accounts were used as comparisons. The distribution of the population by age, sex and region was compared, as well as the levels of consumption and distribution of consumption expenditures. The results generally confirmed that the SLC data were reliable.

Since one of the great advantages of the LSMS method over more traditional single-purpose surveys is the inclusion of consumption information, it is especially interesting to see how the SLC's consumption information from 2000 households and 150 items compares to that of the HES's 4300 households and 800 items. The results are quite comparable, although the costs involved for the SLC's consumption module are a fraction of those of the HES.

<table>
<thead>
<tr>
<th>Total Consumption by Category</th>
<th>1984 HES</th>
<th>1988 SLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>30.5%</td>
<td>49.7%</td>
</tr>
<tr>
<td>Of Which: Meat/Poultry/Fish</td>
<td>14.6%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>4.3%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Oils and Fats</td>
<td>1.8%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Cereals and Breakfast Drinks</td>
<td>7.4%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Starchy Roots / Tubers</td>
<td>4.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>4.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Fruits</td>
<td>1.3%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Sugar/Sweets</td>
<td>1.9%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2.2%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Beverages</td>
<td>1.3%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Purchased Meals</td>
<td>7.2%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Fuel and Household Supplies</td>
<td>6.6%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Housing and Household Operations</td>
<td>10.9%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Personal Care</td>
<td>3.9%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Health Care</td>
<td>1.6%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Clothing and Footwear</td>
<td>5.0%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Transportation</td>
<td>7.8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Recreation</td>
<td>5.0%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2.9%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The individual modules of the prototypical questionnaire were adapted for Jamaica in their content and wording. The consumption modules are, for example, based upon the Jamaican Household Expenditure Survey, which is conducted every five years. The LSMS's prototypical education module focuses on the determinants of enrollment. Given Jamaica's nearly universal primary enrollment, the SLC's education module has been enriched with information on attendance, drop-outs, availability of teaching materials, etc.

The SLC is scheduled to be a semi-annual survey. Its schedule has in fact been somewhat more erratic given the need to adjust to factors such as Hurricane Gilbert, national elections, the start up phase of the HRDP, and the 1991 census. The roster, expenditures, and miscellaneous income modules, and condensed versions of the health, education, and anthropometric modules form the core of the survey. On a rotating basis designated topics receive additional emphasis. The November 1989 survey, for example, had a greatly expanded health and fertility module, and was complemented by a survey of health facilities. The November 1990 survey has an expanded education module, and is accompanied by a school survey that includes an achievement test for students from the household sample.

The Jamaican SLC does not include the standard LSMS price and community questionnaires. The price questionnaire was dispensed with because in such a small country with a good transport system, regional price variation is minimal. There is also the possibility of merging data from the quarterly Consumer Price Survey with that of the SLC.

The need for the community questionnaire is also less in Jamaica than in many countries because individual rural communities are much less isolated. In some rounds, a module was
added to the household questionnaire to establish the distance to or availability of some services. There has not yet been an assessment as to whether this is a useful substitute for the community questionnaire. For the SLC’s modules of special interest the elaborate and detailed surveys of health facilities and schools will provide far more information than that usually available from the community questionnaire.

The Story of the SLC’s Beginning

In January 1988, an LSMS survey was personally requested by then-Prime Minister Seaga, as his suggestion for how the Human Resources Development Program should be monitored. That the head of state would request the LSMS by name, and then proceed to explain in some detail the system and why it was appropriate as a monitoring tool for the HRDP, was extraordinary.

As the development of the HRDP was highly centralized in the Office of the Prime Minister, Prime Minister Seaga’s request for the LSMS survey brought with it acquiescence on the part of the Statistical Institute of Jamaica (STATIN) and the Planning Institute of Jamaica (PIOJ). There was also a need felt to establish quickly a baseline measurement of living standards before the HRDP went into effect. Because of the strong mandate and the availability of the Labor Force Survey on which to piggy-back (see Section IV), the Survey of Living Conditions Round I commenced forthwith.

There was initially little Jamaican involvement in design or analysis (see Section IV). This was partly due to the centralized decision making which brought about the survey. The
Bank had a clear mandate to do something, and so because it did not have to spend time selling

**Box 4: Developing a Poverty Line for Jamaica**

The Planning Institute of Jamaica (PIOJ) commissioned an analysis of the SLC data in order to set an official poverty line for the country. The poverty line would be used to track progress in raising living standards, and as an eligibility criterion for some government social programs. This box summarizes Gordon's (1989) report to the PIOJ.

The definition of poverty is based on the cost of maintaining a nutritionally adequate diet. The prevalence of poverty is derived in a five-step procedure.

1. Gordon takes the daily requirements for calories formulated by the World Health Organization, as modified for the Caribbean by the Caribbean Food and Nutrition Institute. They are differentiated by age and sex.

2. The Ministry of Health has formulated a low-cost food basket for a family of five. The basket reflects local consumption patterns rather than the least cost solution to a linear programming problem. The food basket, however, assumes that no food is wasted or consumed outside the home. Gordon then converts the cost of the basket into a price per calorie.

3. Using the price per calorie and the number of calories required by each individual, the budget required to purchase adequate food is calculated for each household.

4. Non-food expenditures are allowed for by multiplying the household's required food cost by the reciprocal of the share of food in the budget of the poorest quintile of the population. This was done separately for rural and urban areas.

5. The estimated requirement for adequate welfare as derived in the first four steps is calculated for each household based on its age and sex composition. This is then compared with the household's reported expenditures (including the value of food received as gifts or produced in the home, but not the imputed value of housing and durable goods). Those households with actual expenditures lower than those required for adequate welfare are considered poor.

Based on the described procedure, Gordon calculated the prevalence of poverty. It is illustrated in the figure below.
the idea to STATIN, PIOJ, or the technical staff or line agencies which would be future users, it turned out that the step which builds consensus and active involvement was initially passed over. A second factor was the desire to move forward promptly. The Bank’s loan in support of the HRDP would later pay the salary of the SLC’s coordinator but the loan money was not available when the SLC began. The lack of Jamaican involvement in the detailed decisions about the survey, and the overwork of the well-trained people in the badly paid civil service characterized by high turnover and job vacancies, jointly produced a situation in which the assigned counterparts were more phantom than real.

Prime Minister Manley came into power in February 1989, between the first and second rounds of the SLC. His administration is characterized by more decentralized decision making, and a number of special initiatives which had been previously managed from the Office of the Prime Minister were shifted to line agencies. The HRDP was among these, with overall coordinating responsibility shifted to PIOJ. The new Director General of PIOJ saw immediately the problem of not having Jamaican staff with adequate time and skills to begin to take over the survey and run it independently of the Bank. The Director General helped make sure that counterparts were available, and a gradual training and transfer program began. It will culminate in Jamaicans totally taking over the survey, probably in 1991.

**IV. THE STRATEGIC CHOICES**

Several strategic choices were made in Jamaica which have shaped the survey’s implementation. Seven of these choices, and their advantages and disadvantages, are discussed in this section so that readers may judge whether the same strategies are appropriate in their countries.
Choice 1: Clarity of Purpose

The SLC was implemented expressly to monitor the Human Resources Development Program. Within the broad mandate, there were specific issues (Who are the poor? How do they react to changes in public social services?), policies (the pricing of public health care) and programs (food stamps, textbook distribution) to be addressed. While a prototypical LSMS can cover much more, Jamaica decided to narrow its focus. Equally important, it has reduced the number of line agencies involved so that they can be active participants in the survey process (see Choice 5 later in this section).

The focus on monitoring the HRDP made the SLC concrete and appealing to both policy-makers and technicians alike. It has helped to establish a manageable set of priorities. The disadvantage to narrowing the focus is that some of the potential of the LSMS is lost. For a relatively small additional cost, issues in agriculture, housing, migration, credit, etc. could have been handled. Also, because the modules on household enterprises are not included, the understanding of labor activities and income is not complete.

Choice 2: Timeliness

Because the goal of the SLC is to feed immediately into program monitoring and policy making, the information must be timely. The SLC has demonstrated that good results can be turned out quickly, which indeed has led to tangible impact on the reformulation of the food stamps program. Still, the concern with good turnaround times led to some compromises on
At the time of the Human Resource Development Program's formulation, Jamaica had three major nutrition programs — general food subsidies, food stamps, and school lunches. The SLC data were used early on to quantify the distribution of benefits of the three programs. The results, illustrated in the diagram, clearly showed the regressive nature of general food price subsidies. Food stamps and the benefits of school feeding programs, on the other hand, appeared to be very well targeted to the poor. The information helped to inform the policy debate. In the end, the HRDP calls for the removal of food subsidies, while raising the benefit and eligibility levels in the food stamps program, and expanding and better targeting the school lunch program.

quality, and the postponement of some refinements. Furthermore, the need for speed has worked against taking time for the adequate transfer of skills, and consequently led to heavy Bank involvement.
Example–Preliminary Reports. The preliminary analyses of the first two rounds of data were performed by Bank staff and consultants on three-week missions in Jamaica, just as the data entry was completed. The reports were structured to demonstrate the utility of the survey in several key areas. They each contained chapters on (i) the role of the SLC in monitoring the HRDP; (ii) the survey structure, method and validity; (iii) the distribution of welfare; and sectoral chapters on (iv) health; (v) education; and (vi) nutrition. The nutrition chapters were particularly successful in demonstrating how the survey data should be used in policy analysis. The Round I report compared the distribution of benefits of the three major nutrition programs. (The balance between targeted and untargeted programs was a major policy question of moment). The Round II report examined several features of the food stamps program, especially the ability of its delivery system to adequately reach the target population.

The speed with which the preliminary reports were produced meant that they were written without Jamaican involvement, with only partial data cleaning, with poor graphic design, and with limited analysis of important and complex policy issues. Nevertheless, the clear demonstration of policy relevance helped to capture the interest, participation and patience of key policy-makers and line staff needed for the further development of the survey. 6/

Example–Questionnaire Design. Another example of the timeliness/quality trade-off was the design of the questionnaire for Round I. This was accomplished by a Bank staff member on a one-week mission by adapting the prototype LSMS questionnaire as far as his knowledge of

6/ A limiting factor in the usefulness of the first report was its scant circulation. It was not published promptly due to a shift in priorities around election time. In retrospect, some follow-up from the Bank after the mission might have prompted the report's publication. Its wider circulation would have helped in subsequent efforts to obtain participation in questionnaire design and data use.
Jamaica and his limited counterpart contacts allowed. The result was a good questionnaire that supported analysis of general welfare. It provided results sufficient to demonstrate the potential of the survey and to serve as a baseline for the HRDP, but it had some shortcomings.

The Round I questionnaire's imperfections were largely attributable to the lack of input from persons who both understood the survey's ins and outs and the issues of moment in Jamaica. The food expenditure module, for example, was based on an aggregation of categories used in the more detailed Household Expenditure Survey (HES) in 1984. In the aggregation process, wheat flour and cornmeal were put together in a single category in the SLC Round I questionnaire. This was appropriate for soliciting good recall and making the SLC both compact and comparable to the HES. For analysis of the general food subsidies, however, it would have been better to have expenditures on these differently subsidized items reported separately. A more fundamental problem was that the prototype LSMS education module was designed to study determinants of school enrollment. Given Jamaica's universal primary enrollment, the prototype module was uninteresting and should have been enriched with information on quality and performance issues (which was done in subsequent rounds).

**Advantages.** There are three advantages of getting good, fast results early on, and deferring to later stages the very detailed work to realize the survey's full potential. First, speed is of the essence in the policy relevance of the survey and a goal in its own right, given that the SLC's prime *raison d'être* is not research, but use as a policy tool. Second, the production of good and interesting results with explanations of the need to improve upon them in various ways can be an effective way to both teach counterparts about the survey process and elicit their
involvement. Third, it is frequently only in the process of the basic work that the steps necessary for refinements become apparent.

**Disadvantages.** There are disadvantages in the approach as well. The first is the danger that with a pretty satisfactory result in hand, no one will ever bother to get to the detailed work that could make it better. Second, undue concern with speed can be used to justify inadequate attention to training and quality issues.

**Choice 3: Adaptation to the Existing Environment**

The SLC was designed to fit as smoothly as possible into the existing environment. The largest part of this was the link to the ongoing, quarterly Labor Force Survey (LFS). The SLC is administered to a randomly chosen one-third sub-sample of the LFS sample about a month after the LFS interview. The LFS is taken as the roster and labor module of the SLC. The LFS sampling procedure, sample frame, interviewers, and infrastructure are used for the SLC. Other examples of the adaptation of the SLC to the existing environment are the construction of its expenditure modules on the basis of the HES, and the possible future construction of a household enterprise module on the basis of the Small Enterprise Survey.

**Advantages.** In Jamaica, the practical advantages of building on the LFS are several. Because the SLC makes use of the LFS sample and infrastructure, its costs are much lower than otherwise. There is no need to repeat sampling. No new vehicles need be purchased. No new interviewers need be hired. Those who are used are already well trained. Training of staff in the
SLC may spill over and benefit the quality or speed of the LFS. The LFS has a fixed place in STATIN's calendar of work, thereby establishing the time frame for the SLC which, in turn, promotes the prompt response by other line agencies when their cooperation is needed. Much of the technical quality of the SLC is due to the high quality of STATIN and the LFS on which the SLC piggy-backs. Because fielding the survey was relatively simple, the marginal effort spent could be concentrated on to analysis and policy applications.

There is also a political advantage in that because the SLC did not replace an existing survey, no one loses face, staff, or money as a result of its implementation. They either remain unaffected or have their work reinforced by its inclusion in the SLC. The attention to not creating outright opponents, and of not duplicating work, is important in building a constituency for the survey.

Disadvantages. There are some disadvantages to building on the LFS. These restrictions were judged, in the Jamaican context, to be outweighed by the advantages of linkage with the LFS, and the experience of three rounds does not fundamentally change that judgment.

The LFS roster and labor force module have been used as they were before the introduction of the SLC; they are significantly less detailed than the LSMS prototype, and certainly less flexible. The tagging on to the LFS also precludes the possibility of using a rolling panel or of conducting field work evenly spaced throughout the year (to avoid seasonal biases). The link to the LFS has also limited the whole rest of the LSMS prototype modules to a single interview. The number of modules has therefore been reduced to avoid excessive interview lengths and respondent fatigue. The administration of the survey in a single interview also
Box 6: The Cost of Medical Care

The Human Resource Development Program includes measures to improve the quality of public health services, and to raise the fees charged for them. Cross-tabular analysis like that shown below demonstrates the importance of costs in patients' choice of providers. The average cost of consulting a private doctor was J$78.52, while the costs reported for those who went to public health clinics was J$5.60. Not surprisingly, when they are ill, the poor were much more likely than the wealthy to choose public clinics over private doctors.

Descriptive analysis of the SLC will allow the Jamaican government to track the patterns of the use of health care services as their prices and quality change. It will be easy to determine, for example, whether vulnerable groups use public clinics less often when their fees are raised. On the other hand, as the quality of public clinics rises, they may attract new users, which can also be estimated using the SLC data. More complex econometric studies of the SLC data will allow for simulations that will forecast how changes in the price and quality of public health care will affect (i) the revenues generated from fees; and (ii) the use of health care by important population groups. Such studies allow the government to better choose among the options before implementing (possibly) disruptive changes. The Jamaican government will probably commission such analysis of the SLC data soon; similar work has already been done on Peru's and Cote d'Ivoire's LSMS data (see Gertler and van der Gaag, [1990] or LSMS Working Paper No. 45).

<table>
<thead>
<tr>
<th>Cost of Medical Care and Choice of Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COST BY PLACE OF CONSULTATION</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Public</td>
</tr>
<tr>
<td>Hospital</td>
</tr>
<tr>
<td>Center</td>
</tr>
</tbody>
</table>

| Consultation | J$ 35.66 | 5.60 | 78.52 |
| Drugs        | 40.93    | 16.13 | 66.87 |

<table>
<thead>
<tr>
<th>CHOICE OF PROVIDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quintile</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Poorest</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>Richest</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>22</td>
</tr>
<tr>
<td>35</td>
</tr>
<tr>
<td>26</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>14</td>
</tr>
</tbody>
</table>

Note: At the time of the survey, one US$1 was worth J$5.5

Note: The table is calculated as the percent of those who reported themselves as ill or injured in the four weeks prior to the survey, and who sought medical care.

Source: STATIN and World Bank (1988)

precludes verifying apparent anomalies in information from the first half of the interview during the second interview, as is standard in the LSMS procedure.
The use of established procedures for field supervision, of established relations between field staff, regional offices, and headquarters, and of existing supervisors, interviewers, and data entry personnel has impeded somewhat the implementation of some of the supervision, quality checks, and data editing procedures used in the prototype LSMS. Because these procedures have been shown to be important in guaranteeing data quality, their loss cannot be waived lightly.

Special Considerations. The scope for the use of existing resources in an LSMS will obviously vary according to the country. As mentioned in Section III, the Jamaican Statistical Institute had a permanent staff of 80 well-trained interviewers, and a full complement of vehicles, computers, offices and supplies. In other countries, setting up the LSMS has started from the ground up, with the recruitment and training of interviewers, construction of a sampling frame, and the purchase of everything from pencils to computers to rain boots.

Choice 4: Transfer of Skills

The transfer of skills to enable the Jamaicans to carry on the SLC without Bank involvement is a goal in the implementation of the SLC. The actions needed for skills transfer are, however, sometimes in conflict with those needed to produce a high quality, timely survey. In the Jamaican SLC the conflicts have been managed by using an approach with strong early Bank involvement and gradual training of Jamaican staff. This can be contrasted with the approach taken in other survey programs. The Demographic and Health Surveys fostered by the Institute for Resource Development and funded by USAID and UNICEF, for example, have little in the way of institution building or training. Except for the field work itself, the survey tasks
Box 7: Targeting of the Textbook Program in Jamaica

Textbooks are among the most cost-effective inputs to education (Lockheed and Verspoor, 1991). In recognition of this, the Jamaican government has instituted an innovative program to ensure that all students have adequate access to textbooks. The program is a combined effort of the private sector and the government. A core set of texts have been provided free of charge to students. In light of the program's early success, it is being expanded to include a wider range of subjects, and to have a rental component for texts at the secondary level.

That the program is largely successful in reaching the poor who would be the least likely to get textbooks otherwise is shown in Table B.7.1. Even in the poorest quintile of the population, 73% of students have texts for their exclusive use. The free textbooks go more frequently to the poor than the rich, i.e., 69% of students in the poorest quintile received free texts, but only 24% in the richest quintile. It is also clear that as economic level rises, the households will acquire textbooks on their own and spend more money doing so. When the expanded education survey has been done, it will be possible to determine how important the access to textbooks is in raising children's achievement.

<table>
<thead>
<tr>
<th>Access</th>
<th>Poorest</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Richest</th>
<th>Jamaica</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has Books for Own use</td>
<td>73%</td>
<td>80%</td>
<td>79%</td>
<td>86%</td>
<td>86%</td>
<td>81%</td>
</tr>
<tr>
<td>School Provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Books Free</td>
<td>69%</td>
<td>56%</td>
<td>52%</td>
<td>47%</td>
<td>24%</td>
<td>51%</td>
</tr>
<tr>
<td>School Rented Books</td>
<td>20%</td>
<td>22%</td>
<td>24%</td>
<td>30%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Acquired Books</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elsewhere</td>
<td>35%</td>
<td>53%</td>
<td>58%</td>
<td>71%</td>
<td>79%</td>
<td>58%</td>
</tr>
<tr>
<td>Cost of Books Acquired</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elsewhere (J$)</td>
<td>J$33</td>
<td>64</td>
<td>90</td>
<td>146</td>
<td>214</td>
<td>104</td>
</tr>
</tbody>
</table>

Source: preliminary analysis, Round III data.

and decisions are controlled by expatriate consultants. The emphasis is on producing quickly very complicated, high quality data sets. The United Nations Household Survey Capability Program
(UNHSCP), on the other hand, does not directly get involved in particular surveys. Rather it promotes institutional development, usually centered on simpler, recurring surveys which frequently have long turnaround times.

The approach to the transfer of skills for the SLC has been "tutorial". The Bank initially did much of the work, and gradually handed over responsibility to Jamaicans. For most tasks, there was a period of overlapping involvement, during which the Jamaicans learned by doing, with the help of the Bank. "Jamaicanization" has proceeded as counterparts have been identified and trained. As a result, the speed, completeness and timing of the transfer of responsibility have varied among the tasks necessary to carry a survey from conception to data analysis. For Round I, Bank staff and consultants designed the questionnaire, trained the interviewers in the details of the questionnaire, wrote the data entry program, performed the data management and did the data analysis. The STATIN chose the sample, carried out the field work and performed the data entry. For Round IV, the Bank was involved only in the design of a special new module, and in a fairly active but general advisory role. By Round V even that involvement should diminish.

The tutorial approach was arrived at only partly by design. The first two rounds of the survey were conducted before the institutional arrangements for the HRDP were finalized, and before the Bank's financing for the survey costs, including the SLC coordinator, came through. There was, therefore, an initial lack of counterparts to take responsibility or to be trained. In their absence, Bank staff and consultants played a larger role than would otherwise have been the case.
**Advantages.** Early Bank involvement allowed the surveys to begin soon enough to form a good baseline before the HRDP proposals went into effect, which was deemed quite important.

The tutorial approach has also been a good way of allowing on-the-job training, and of diagnosing more precisely than otherwise possible the kind of formal training needed. Having witnessed or seen the product of the whole survey effort made it easier for persons not familiar with the LSMS to visualize what steps were required and what inputs needed from what parties. For example, having had to make arrangements for Bank staff to talk to numerous persons in several line agencies about questionnaire content and wording drove home the need for care in its design and in its adaptation to local circumstances. Having seen Bank staff pore individually through 2000 questionnaires in an effort to rectify a recurring problem for one variable demonstrated the importance of setting high standards for interviewer training and the supervision of data entry. Having had to pay for the programming consultant for a month illustrated the need for programmer counterparts in STATIN.

**Disadvantages.** The main drawback to the tutorial approach is that it strengthens the perception that the survey is by and for the Bank rather than by and for the Government of Jamaica. The perception would probably exist to a certain degree even under alternate strategies, but extra care is required to constantly remind and explain to both Jamaican and Bank staff that the survey was specifically requested by the Government of Jamaica for use in Jamaican policy formulation. A further disadvantage is that if Bank staff fill in for gaps in Jamaican capacity too often, there is little incentive for the Jamaican agencies to dedicate their own resources to fill those gaps in a more permanent manner. Finally, the tutorial approach raises the cost in Bank staff time above what it might otherwise be.
Choice 5: Institutional Arrangements - The Jamaican Side

In Jamaica, the institutional arrangements for the SLC involve the close cooperation of several agencies. This is one of the most ambitious ways of setting up the control of the survey, which accounts for both the significant policy impact it has had (and should continue to have), and the relatively high time costs in implementation (see Section V).

The Planning Institute of Jamaica (PIOJ) oversees the whole SLC process. It formulates the long term goals, prepares the analysis plans, maintains financial control over the resources from the Bank loan which finances the incremental costs of the survey, chairs the SLC Steering Committee (see paragraph 62), and helps see to it that each step in the survey process is completed on time by the responsible party.

STATIN is responsible for field work and data management. It field tests questionnaires, trains interviewers, conducts the field work, performs the data entry and basic data management. In these areas it is usually the only actor. STATIN is also involved in questionnaire design, long-term planning and most other aspects of the survey process.

The Ministries of Health, of Education, and to a lesser extent, of Labour, Welfare and Sport, are involved in the survey process. They participate in planning the rotation of modules of special emphasis, in designing modules in their sectors, and designing the analysis of data from their sectors.
In order to smooth the inter-agency coordination, an SLC Steering Committee was set up. It is chaired by PIOJ and has representatives from STATIN and the three line ministries. There are, furthermore, two members of the Institute for Social and Economic Research at the University of the West Indies. They represent the academic community and provide technical support.

**Advantage.** Strong influence by the sectoral ministries on the survey design and data analysis should increase its use and policy impact. Involvement of the line agencies should ensure that their high priority issues are addressed, and that they pay attention to the results of the survey.

**Disadvantages.** The problem with having each line agency involved is twofold. First, many line agencies do not have adequate planning and evaluation capacity to take part in survey design and analysis. Second, even when the line ministries are all well positioned to participate, having many agencies actively involved requires a degree of coordination that is time-consuming, tedious and difficult.

**Special Considerations.** The close cooperation of line ministries in the survey process was important because, in Jamaica, the challenge was to make the survey useful in policy making and program implementation. STATIN’s track record on the LFS, HES and Contraceptive Prevalence Surveys meant that there was little need to demonstrate that large or complex surveys can be carried out well. In countries with a lesser starting point, more emphasis would need to be put on overcoming the logistics of the sample design and field work.

A less ambitious arrangement is to have the survey design run by the planning ministry or statistical office with little input from the line ministries. Analysis can be done in-house in the
Box B: Female-Headed Households and Poverty

Estimates of either female-headed households or either the proportion of either female-headed households or either the proportion of female-headed households have been derived from a number of sources, including household surveys and related studies. The proportion of female-headed households in the United States was 11.8% in 1980, and 12.7% in 1990. In contrast, the proportion of male-headed households in the United States was 79.9% in 1980, and 77.3% in 1990.

In the United States, the proportion of female-headed households is higher in the South and the Midwest, where the proportion of female-headed households is 14.4% and 13.7%, respectively. In the Northeast, the proportion of female-headed households is lower, at 10.5%.

In terms of poverty, female-headed households are more likely to be below the poverty line than male-headed households. In 1990, the poverty rate for female-headed households was 26.4%, compared to 12.1% for male-headed households.

**Exhibit:**

- **Figure 6.7:** The distribution of female-headed households by marital status, 1990.

**Graph:**

- **Per Capita Household Consumption:**
  - **Main Headed:**
  - **Female Headed:**

---

**Notes:**

- The distribution of female-headed households by marital status shows the importance of caution with the figures, as the figures do not take into account the distribution of marital status among the population.

**References:**

- U.S. Census Bureau, 1980 and 1990 Census Reports.

---

**Box B:**

- **Female-Headed Households and Poverty**
  - The proportion of female-headed households in the United States was 11.8% in 1980, and 12.7% in 1990.
  - The proportion of male-headed households was 79.9% in 1980, and 77.3% in 1990.
  - The poverty rate for female-headed households was 26.4% in 1990.
  - The poverty rate for male-headed households was 12.1% in 1990.

---

**Figure 6.7:**

- **Distribution of Female-Headed Households by Marital Status, 1990.**

---

**Graph:**

- **Per Capita Household Consumption:**
  - **Main Headed:**
  - **Female Headed:**
Box 2: Female-Headed Households and Poverty (cont)

Female-Headed households are more likely to be poor than male-headed households, but not as dramatically as the difference in mean per capita expenditure levels would imply. Let us consider two poverty groups, the poorest 10 and 30 percent of the households. Of households headed by women, 11.4% fall below the 10 percent poverty line and about 32.6% below the 30 percent poverty line. For male-headed households, the figures are 8.7% and 28.0% percent, respectively.

In Jamaica, as elsewhere, female-headed households tend to be larger and to have more children than male-headed households. Controlling for family composition can affect the picture of poverty. In female-headed households in which there are two or more adults per child, per capita expenditure are 20 percent lower than those of similar male-headed households. When there is fewer than one half of an adult per child, female-headed households’ per capita expenditures are eight percent higher than in similar male-headed households.

The refinements in calculations soften the conclusion that female-headed households are much poorer than male-headed households. Further work is needed to explore the issue and to determine whether female-headed households should be a priority group for government programs. The preliminary data suggest that it is probably best to focus first on the differences between poor and non-poor households. At a second stage female headship within the group of poor households may still be a cause for extra concern, especially with regard to child welfare issues.

Table B.9.1
Per Capita Expenditure Levels and Household Composition,
Comparison by Sex of Head of Household.

<table>
<thead>
<tr>
<th>Number of Adults per Child</th>
<th>Welfare of Female-Headed Households, as percent of Level for Male-Headed Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 2</td>
<td>79%</td>
</tr>
<tr>
<td>1/2 - 2</td>
<td>89%</td>
</tr>
<tr>
<td>≤ .5</td>
<td>108%</td>
</tr>
</tbody>
</table>
central agencies, or contracted out to individual consultants, university groups or private think tanks. This arrangement runs the risk of lesser relevance and use of the information, but is substantially easier to accomplish.

Choice 6: Use of Multiple Avenues of Data Analysis

Jamaica is ensuring that the data are used in a number of ways. PIOJ and STATIN jointly produce a simple statistical abstract for circulation to government offices and for sale to the public. They have sponsored two seminars, one for government staff and one for academics, on the preliminary results from the SLC. The Jamaican government is commissioning specific studies on policy topics of interest, such as the Food Stamps Program studies commissioned by PIOJ and done by Jamaican researchers. The government has made the raw data set available to USAID for use in a housing policy study which the agency is financing. The Ministry of Health has obtained some funding to analyze the health data, and is identifying funds to commission a study of the implications for health care use of raising user fees. The government has also granted access to private researchers in U.S.-based research institutions. Perhaps most importantly, the government has placed the raw data files in the collection of the University of the West Indies' Institute for Social and Economic Research, thereby making them available to the general academic community.

Legally, the data belong to the Government of Jamaica, and the World Bank has access to them for its own use. The government is kept informed of plans to use the data and consulted on the results before publication. The Bank itself has clearance mechanisms in place to prevent the
publication of unsound or confidential analyses. Because of the quality and comprehensiveness of the data, they are being used by the Bank both directly in policy dialogue with Jamaica concerning the social sectors, and also in a number of research initiatives of interest to the development community in general.

**Advantages.** The use of many different mechanisms for data analysis naturally increases the data's use, and therefore the impact and value of the survey. After all, it is only if the data are used that the cost in collecting them is justified. The basic, preliminary reports will be widely useful and replicable. The more sophisticated work commissioned will answer specific issues of the moment.

The Jamaican government's unusual willingness to make the data sets easily available to private researchers should ultimately lead to indirect payoffs. Most of the research planned is of policy relevance, and should interest policy makers. Of course, it may not conform to the government's agenda in priority, timing or result, but it is free to the government. Given the richness of the data sets and the focus of the government on policy formation and service delivery, rather than research, there is also little preoccupation with "intellectual turf".

**Special Considerations.** The technical capacity to carry out sophisticated policy analysis or even to write detailed terms of reference for it may be quite limited in some countries. In those cases, funds to hire sufficient consultants should be identified, and mechanisms to ensure adequate terms of reference put in place before data are collected. Bank review may be somewhat helpful, but keeping members of the local (and international) academic community involved should be an important part of the project.
Choice 7: Institutional Arrangements - The Bank’s Side

The last important strategic choice for the SLC is internal to the World Bank. It has, nonetheless, influenced the survey’s development. It concerns the allocation of responsibility within the Bank for supervising the survey’s implementation.

The supervision team comes from three parts of the Bank. In order to reinforce the idea that the SLC is to be immediately useful in policy, rather than just in research, the supervision of the survey is led by a staff member from the operations complex (LATHR), and coordinated with the supervision of the overall Bank loan (LA3HR). 7/ Staff from the research complex (especially PHRWH) of the World Bank are also heavily involved in the SLC’s development. They bring to bear the expertise gained from the LSMS surveys in other countries.

Advantages of Use of Operational Staff. The knowledge of Jamaica, of the important policy issues and programs, and of the key actors brought by operational staff to the survey implementation has contributed to the success in making the SLC a policy tool. Research staff could gain similar expertise, but it is unlikely that they would be involved in a country for long enough to do so, much less that they would do so before beginning to design the survey.

The knowledge of Jamaica and of the issues and programs involved in the HRDP was important in the design of the questionnaire and formulation of questions. Experience has shown

7/ The "operational complex" of the World Bank refers to that part of the organization which is principally concerned with formulating and supervising loans to developing countries. It is contrasted with the policy and research complex, the finance complex, and the administrative complex. The initials used here refer to organizational units within the World Bank, and are not important to readers unfamiliar with the Bank’s organization.
that when the initial draft presented to Jamaicans for consultations was close enough to the final
goal, good and concrete feedback was stimulated. When the initial draft was too far off the mark,
the response was apathy rather than constructive involvement. Thus even before presentation of
the prototype questionnaire to the counterparts for adaptation to the specific country situation, it is
advisable for operational staff familiar with the goals of the analysis and the issues, programs, and
nomenclature to make a first set of adaptations. 3/  

The preliminary analysis done with the Round I data caught people’s attention because it
contained several examples and "teasers" of policy and program analysis. The full comparison of
the distribution of benefits of general food subsidies, food stamps, and school feeding drew
heavily on program details learned in the loan preparation. The ability to raise the debate from
ideological generalities to specifics was a very convincing argument for the usefulness of the
SLC. At the time, general food subsidies held the center stage in the dialogue with both the
International Monetary Fund and the World Bank, and negotiations for support for the other food
programs with other agencies were ongoing. The report was also laced with suggestions for
further analysis and questionnaire refinement in order to better support analysis of the HRDP.
Without the program knowledge of operational staff, the report would have been limited to a
fairly bland description of the distribution of welfare and some statistics on service delivery.

Because the operational staff member had worked in Jamaica before the implementation of
the survey, she already had some knowledge of the Jamaican institutional structure and actors who
should be involved. This proved useful in eliciting information and building a constituency
among the potential users of the survey data.

3/See Ainsworth and van der Gaag (1988) for an explanation of the reasons and procedure for the process.
Box 9: The Quality of Pre-Natal Care

The quality of social services provided is obviously important, but is frequently not well known or monitored. The expanded health modules of the SLC's third round looked closely at quality of care issues for pre-, intra-, and post-natal care. Detailed fertility, pregnancy and delivery histories were collected. The place where each woman received care was recorded and will be matched with the data from the health facility survey.

A preliminary look at the quality information is provided in the tables below. First, Table B.9.1 shows, for those women who got pre-natal care within the last five years, the frequency with which five of the different actions that should be part of pre-natal care were performed (information was collected on more than these five actions, but only five are used in this illustration). Overall, the quality of pre-natal care is good. More detailed analysis will show how much the quality of care varies among providers, i.e. by sophistication of clinic, or whether it is public or private, and whether acceptable standards are generally maintained. Analysis of how far women travel to receive care, and how much they pay for it will help guide policy-makers as to what attributes of care women value.

Table B.9.1: Quality of Pre-Natal Care

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Never</th>
<th>Once</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check Weight Gain</td>
<td>5%</td>
<td>7%</td>
<td>12%</td>
<td>78%</td>
</tr>
<tr>
<td>Check Blood Pressure</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>86</td>
</tr>
<tr>
<td>Take Urine Sample</td>
<td>4</td>
<td>21</td>
<td>13</td>
<td>62</td>
</tr>
<tr>
<td>Take Blood Sample</td>
<td>13</td>
<td>50</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td>Check Body Swelling</td>
<td>20</td>
<td>10</td>
<td>19</td>
<td>43</td>
</tr>
</tbody>
</table>

Source: Preliminary analysis, Round III data.

The effectiveness of pre-natal care is suggested in Table B.9.2. Those women who got care that met norms for each of five interventions had babies of higher birth weight and with a better survival ratio than women who got care that did not meet norms. More detailed study which controls for risk factors such as age, parity, smoking and drinking, and which controls for socio-economic factors such as the woman's education and economic status will be performed. This will allow a judgement as to which specific interventions have the biggest impact on birth outcomes. Combined with information on the cost of the intervention, policy-makers will then be better equipped to make decisions about how to allocate scarce monetary and personnel resources.

The frequent and informal contact with other operational Bank staff working on Jamaica
Box 9: The Quality of Pre-Natal Care (Continued)

Table B.9.2: Impact of Pre-Natal Care

<table>
<thead>
<tr>
<th>Quality of Care*</th>
<th>Baby Average Birth Weight</th>
<th>Survival Rate**</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>7.4 lb</td>
<td>99.2</td>
</tr>
<tr>
<td>Low</td>
<td>7.1 lb</td>
<td>97.4</td>
</tr>
</tbody>
</table>

* "High" quality care is defined to mean that the norm for all five procedures is met, i.e., weight, blood pressure and body swelling are always checked, and urine and blood samples are taken at least once. "Low" quality care is defined to mean that the norm for none of the first three procedures was met.

** Percentage of the children born to the pregnancies whose care is recorded, who are alive today. The whole set of questions pertains to women age 15-45 who have, within the last five years, had a pregnancy of more than seven months duration.

Source: preliminary analysis, Round III data.

has made coordination with the rest of the country dialogue and portfolio very smooth.

**Difficulties of Use of Operational Staff.** There are three difficulties in using operational staff so extensively in the survey implementation. First, the amount of staff time used in overseeing survey implementation, especially if the Bank conducts preliminary analyses, is much greater than usually available from sector work or supervision budgets, so some tough or innovative budget choices must be made. Second, the person selected must have some inclination to and experience in empirical research. This is not always present in the person who might be most logically placed to supervise the loan which supports the survey. Third, if the operational staff are not allowed time to do much analysis with the data, it can be frustrating and detrimental to their ability to appreciate the technical issues involved in the survey’s design and implementation.
Advantages to Use of Research Staff. All of the previous LSMS surveys have been supervised by research staff (PHRWH). Their use in helping set up the Jamaican version brought with it lessons of what did and did not work elsewhere. Furthermore, having researchers who regularly use LSMS data helps to ensure that questions are formulated in ways that are actually useful in analysis. Finally, the staff used are at the leading edge of their fields and can provide an unusual pool of expertise in questionnaire design and data analysis.

Disadvantages to Use of Research Staff. There can be a tendency for research staff to overestimate country’s institutional capacity and propose plans which are too ambitious. Their perspective is likely to favor proposals which broaden the frontiers of understanding rather than merely address in a specific country more mundane, bread and butter policy issues.

Summary

The Jamaican SLC differs from other LSMS surveys in its narrower focus and greater emphasis on immediate policy impact. It benefitted from starting with a much more capable Statistical Institute, and generally more capable line agencies than one may encounter in other countries. The Jamaican SLC can be considered successful and, indeed, many countries in Latin America and elsewhere are considering implementing something similar. Those countries should consider whether the strategic choices made in the Jamaican survey fit with their goals and starting points.
Box 10: Aging: An Emerging Issue

Jamaica's fertility rate has fallen dramatically from 6.6 children per woman in 1960 to 2.8 children per woman in 1987. With the drop in fertility, the proportion of the population under 15 years fell from 46% in 1970 to 38% in 1982. Persons 65 years and older rose from 6 to 8 percent of the population over the same interval. This demographic change has implications for the provision of social services, labor market conditions, and the financing of the care of the elderly.

The implications of an aging population for health care services is suggested in the table below. The elderly's ability to perform basic activities of daily living declines. Over age 75, more than a third of persons report some limitations in performing such basic activities as eating, bathing or using the toilet. Two thirds report limitations in being able to do something as vigorous as walk 100 yards. Clearly these persons need the help of family, neighbors, service workers or institutions in coping with the minimal tasks of life. The elderly are also more likely to report an illness or injury with the four weeks preceding the survey. The probability that an ill person will seek medical care also rises with age. Thus the demands made upon the health care system will grow as the population ages.

<table>
<thead>
<tr>
<th>Health Status of the Elderly</th>
<th>14-54</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigorous running, hard labor, sports</td>
<td>17</td>
<td>63</td>
<td>77</td>
<td>87</td>
</tr>
<tr>
<td>Walking more than one mile</td>
<td>4</td>
<td>28</td>
<td>52</td>
<td>71</td>
</tr>
<tr>
<td>Walking 100 yards</td>
<td>2</td>
<td>18</td>
<td>35</td>
<td>62</td>
</tr>
<tr>
<td>Eating, Bathing, Using Toilet</td>
<td>2</td>
<td>9</td>
<td>19</td>
<td>39</td>
</tr>
</tbody>
</table>

**Use of Health Care**

Percent who Report Illness or Injury in Preceding Month

<table>
<thead>
<tr>
<th>Year</th>
<th>14-54</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
</tr>
</thead>
</table>

Percent Ill who seek Medical Care

<table>
<thead>
<tr>
<th>Year</th>
<th>14-54</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
</tr>
</thead>
</table>

V: THE COSTS

Costs to the Country

The decision to replicate something like the SLC can only be made in light of the costs involved. In Jamaica, the marginal costs of doing the SLC were low because it used the LFS'
existing vehicles, interviewers and management capability. The fixed costs in order to set up the survey were about US$75,000. These went for computers, software, and international consultancies. The costs of each round of field work were about US$80,000. Of these, about US$45,000 were salaries for permanent staff, paid by STATIN. If the SLC had not been done, it is likely that STATIN would have devoted at least part of that staff time to other one-time surveys rather than letting it go idle. The remaining US$35,000 were used for printing, transport, supplies, per diems for field work, etc. 2/

The cost of replicating the survey in other countries will depend on three factors — the extent to which existing personnel and equipment can be used; the size of the sample; and local prices. Table 2 gives an idea of the range of costs involved for other countries that have instituted the LSMS survey. The range for these other countries is five to ten times the costs in Jamaica. The fixed costs are much higher due to the need to purchase more vehicles and computers, and because the training costs were much higher. The costs per year of survey are higher in the other countries than in Jamaica because of larger sample sizes, the longer distances and more difficult transport problems, the need for additional training, and the inclusion of basic office and field supplies.

The Jamaican SLC’s marginal costs are financed from the World Bank loan in support of the HRDP. This arrangement of having the financing for the survey be from the same source as the (partial) financing for the program that the survey is to monitor has made institutional

2/ These costs are somewhat underestimated. The salaries of managers are not included. The true cost of general office equipment (typewriters, photocopiers, phones, facsimile), supplies, office space, etc. are not fully included due to the difficulty of sorting them out between the ongoing work of STATIN and the newly introduced SLC.
Table 2: Range of Costs for LSMS Surveys
(in 000's of US $)

<table>
<thead>
<tr>
<th>Country</th>
<th>Jamaica</th>
<th>Ghana</th>
<th>Morocco</th>
<th>Pakistan</th>
<th>Laos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Households</td>
<td>2000</td>
<td>3200</td>
<td>3400</td>
<td>4800</td>
<td>2240</td>
</tr>
<tr>
<td>Fixed Costs</td>
<td>75</td>
<td>523</td>
<td>308</td>
<td>313</td>
<td>330</td>
</tr>
<tr>
<td>One Year of Survey</td>
<td>80</td>
<td>296</td>
<td>870</td>
<td>568</td>
<td>221</td>
</tr>
</tbody>
</table>

arrangements quite smooth. Other arrangements are possible, however. In Bolivia, the LSMS is financed from a World Bank credit for technical assistance. The Bank also finances several credits in which the LSMS is a part of the monitoring mechanism. That arrangement is makes coordination more difficult, but still practical. In other countries a source with grant rather than loan funds finances the survey, although the Bank provides the same input on the technical side. The UNDP and USAID have contributed to the financing of LSMS surveys in several countries. The advantage for the country to use grant rather than loan funds is obvious. In those cases it is desirable to assure some mechanism whereby the progress on the technical work and disbursements coincide. Making the Bank executing agency for the project is one such mechanism.

Costs to the Bank

The other cost in implementing the LSMS surveys is the cost to the Bank in staff time and travel. For the Jamaican SLC, for the three-year period from the receipt of the initial request for help in developing an LSMS survey, until the conclusion of field work for the fourth round, the
Bank will have devoted approximately 60 staff and consultant weeks to the effort. Of these, about 30 were spent in Jamaica.

The Bank staff time spent was very high. Several factors contribute to this. First, the development of the survey is inherently one of institutional development, which is slow and requires close attention. Second, the emphasis put on policy relevance mandated the involvement of Bank staff active on the policy side, in addition to the research staff. Third, the emphasis on initial speed, and the tutorial approach to skills transfer required heavy Bank involvement in the early stages of the survey. Fourth, the expanded health and education modules are among the most advanced ever used, and required unusual amounts of specialist time in their design and of supervision in their implementation.

If some strategic choices discussed in Section IV were to have been made differently, the time costs could have been reduced somewhat. It is not, for example, usual or replicable for the Bank to actually write preliminary reports for two rounds of data. Likewise, the design of the special modules could have been contracted out to consultants to the government, rather than having used Bank staff and consultants. Nonetheless, these decisions were made for the kind of tactical reasons which may occur in other countries. Furthermore, it should be noted that the first survey in Jamaica started with very little Bank involvement before the first field work (2 weeks on mission). In contrast, Bank staff spent 20 weeks on mission in Ghana before the first field work was performed.
So far there has been little possibility of using consultants instead of Bank staff because, as of yet, most of the knowledge about the LSMS prototype and the experience of its adaptation in different countries is not well documented, and only a few persons have been directly involved. Until better documentation is developed and a pool of consultants trained, the problem will persist. Once such consultants are available, some of their costs will probably be borne by the Bank in project preparation, but another portion of the costs could be considered costs of implementing the survey, and borne by the country.

The staff costs in developing LSMS surveys are high compared to other Bank activities. For the Latin America and Caribbean Region, the average resources used for a loan are about 110 staff weeks in identification, preparation, and appraisal, and then 12 staff weeks per year for
supervision. The survey expenses account for only a few hundred thousand dollars from a multi-
million dollar project, but the use of staff resources in the development and supervision of the
survey component is disproportionately high. Careful thought as to how the staff costs can be
reduced will obviously be necessary in countries considering its implementation.

VI. CONCLUSIONS

The SLC in Jamaica has used the LSMS method and tailored it to the monitoring needs of
the HRDP. In the process a number of strategic choices were made based on the sectoral
priorities, available infrastructure, time constraints in the policy dialogue and project
development, etc. That these choices were possible clearly illustrates the flexibility of the LSMS
approach. The immediate policy impact and overall policy relevance of the SLC have been
demonstrated dramatically. The survey system will soon be completely in the hands of the
Jamaicans, and will continue to play its role in the further design and evaluation of the HRDP. It
is hoped that the lessons learned during the implementation of the early rounds of the SLC will
prove useful to other countries that plan to adopt this powerful tool for social policy makers.
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