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## Annex 2

# Sample Terms of Reference

### **Example I: The Uganda Nutrition and Early Childhood Development Project**

#### **Terms of Reference for Consulting Firm to Assist in the Project Evaluation**

##### **I. Background**

The Government of Uganda has applied for a credit from the International Development Association toward the cost of a Nutrition and Early Childhood Project. The project focuses on improving the quality of life of children under six years of age and building the capacity of families and communities to care for children. Specifically, the project will aim at achieving early child development through improving the nutrition, health, psychosocial, and cognitive status of children under six years of age in Uganda.

##### **II. Rationale for Investing in Early Childhood Development**

Investing in early childhood development (ECD) has tangible benefits not only for the children and parents but also for entire communities and the country. Rapid physical growth and mental development occur during infancy and early childhood; at two years of age, a child's brain is nearly fully grown. Cognitive abilities are also developed to a large extent by four years of age. Adequate physical and mental growth and development during early childhood enhance school readiness, improve school retention, and contribute to human capital dependency. Children from disadvantaged backgrounds can particularly benefit from early child care, thus bridging the gaps and inequalities associated with poverty.

Good health and nutrition are crucial, as is mental stimulation, if the child is to develop secure conceptual structures in later life. The synergy between nutrition, health, and mental stimulation is so crucial that tangible positive effects on child growth and development can only be achieved through an integrated approach.

### III. Project Objectives and Strategies

The development objective of the project is to improve growth and development of children under six years of age in terms of nutrition, health, psychosocial, and cognitive aspects. The achievement of these objectives at the end of the five-year implementation period will be measured by the following markers: (a) reduced prevalence of underweight preschool children by one-third of the 1995 levels in the project districts; (b) reduced prevalence of stunting on entry into primary schools by one-fourth of the 1995 levels in the project districts, (c) improved children's psychosocial and cognitive development, (d) reduced repetition and dropout rates at the lower primary school level, and (e) development of entrepreneurship skills and economic empowerment of mothers and caregivers.

The project supports the Ugandan National Program of Action for Children and the Poverty Eradication Action Plan. The project particularly enhances school readiness of young children and thus contributes toward reaching the goal of universal primary education. The main project strategy is to enhance the capacity of families and communities to take better care of preschool-age children (zero to six years) through enhancing knowledge on child growth and development, parenting, nutrition and health care, and income-generating activities for women.

### IV. Project Approach

The project is a process-driven, locally prioritized program rather than a blueprint package. Inputs are to be phased into communities as a result of a participatory planning process to ensure ownership and sustainability. The program will involve collaboration between government and nongovernment entities, including local and international nongovernmental organizations (NGOs), and communities. As a multisectoral program involving health, nutrition, early childhood education, child care, savings and income generation, the approach will involve linking various government departments and nongovernment entities to provide a comprehensive service directed toward the development of children. The project will support a range of options—a program menu—relating to the needs of preschool children and their families.

### V. Project Components

**Project Component 1—Integrated Community Child Care Interventions.** This component supports the government's goals (a) to improve parental awareness on major aspects of child care, growth, and

development through parental education, child growth monitoring and promotion, training, and sensitization; and (b) to empower communities to support child development programs through capacity building, through skills for income generation, and through support grants. The objective is to reduce malnutrition (low weight for age) of children by a third at the end of the five-year period in the project districts and increase readiness of children for primary schooling and thereby contribute to the drive for universal primary education. The government plan is to eventually cover all districts; however, interventions in this phase will be implemented in 25 districts chosen by the government based on the level of malnutrition, infant mortality, and rate of primary school enrollment. The project includes the following interrelated interventions:

*(a) Parental Education.* This subcomponent will increase parents' and caregivers' understanding of major aspects of child care, growth, and development, including child nutrition, health, and cognitive and psychosocial development. A range of related competencies will be strengthened in parents. Building parental skills and knowledge will in turn improve the health, psychosocial development, and well-being of children and, ultimately, their receptiveness to education at the primary level. The program will mobilize groups of mothers (and parents) at the community level, supported by project materials in local languages, technical supervision, and communications. Simplified learning materials for adults with low literacy have been tested successfully in Uganda. Emphasis will be on the enhancement of child care practices that promote proper growth and development of children, including childhood nutrition and health (exclusive breastfeeding and appropriate weaning practices—particularly the period of introduction of weaning foods, as well as the type of foods given, and food preparation, child growth promotion, and deworming), psychosocial development, cognitive stimulation and social support, and hygiene and improved home health practices.

The above interventions will be strengthened and supported by an outreach activity (children's day) organized at the parish level to enable communities to access a number of child-related services by means of one-stop shopping. A study of the impact of providing the anthelmintic albendazole to young children in selected parishes will also be conducted in the course of parish-based child days and will measure the effect of every-six-months treatments on weight gain.

*(b) Community Capacity Building and Empowerment for Child Care.* This subcomponent comprises two interrelated activities: (a) community capacity building conducted through community planning and sensitization workshops, and (b) training in entrepreneurship to increase incomes of mothers and caregivers.

**Project Component 2—Community Support Grants for Child Development.** Two types of grants would be available to communities:

(a) *Community Support Grants*—grants to communities offered on the basis of matching contributions from communities. These grants and contributions from communities will cover activities designed to support interventions for child development that fall within the guidelines and menu contained in the project implementation manual. To qualify for this grant, communities will provide counterpart contributions, which may be in the form of goods, works, or services. Examples of the uses of such grants are construction and operation of community child care centers, home-based child care centers, or the production and marketing of weaning foods. The support grants component will be implemented in the same 25 districts included in component 1.

(b) *Innovation Grants*—grants made available to communities to address child-related problems. The innovation grant will aid in implementing interventions outside the menu of interventions described by the community support grants (a) above. As the term implies, the “innovation” fund will be used to support communities at different levels in implementing “innovative ideas” on improving the lives of children within their communities. The innovation grants will be accessed by communities in the same manner as the community support grants: that is, proposals will be prepared by communities following a participatory planning exercise, will then be screened by a subcounty committee, and forwarded for funding by the project.

**Project Component 3—National Support Program for Child Development.** This component consists of central program activities and policy initiatives designed to support the district-level programs in components 1 and 2 and provide quality assurance for the front-line project activities at the community level. This component includes (a) program monitoring and evaluation, (b) support for prevention of micronutrient deficiencies, (c) ECD curriculum development, (d) training of trainers for ECD, and (e) information, education, and communications.

## VI. Implementation Arrangements

The implementation of the project is the responsibility of the government of Uganda assisted by nongovernmental organizations within the decentralization framework and devolution of powers to lower levels as stipulated in national policies. The community (LC-1) is the unit of operation for service delivery, although the coordination structure will also involve the parish (LC-2), the subcounty (LC-3), and the district (LC-5) levels.

In addition, the project hopes to use stakeholder sensitization and consultations, community mobilization, participatory community planning, capacity building for sustainability at all levels, together with strengthening of complementarity with existing national programs and structures. Existing political and institutional structures should be made use of in a multisectoral manner. Transparency and accountability should also be ensured at all levels.

## VII. Project Coordination

**National.** A project steering committee composed of line ministries, donors, and NGO representatives will be responsible for overall guidance of project implementation.

The committee, to be headed by the permanent secretary in the Ministry of Finance, Planning, and Economic Development will provide guidance to the project on policy issues and review and approve the quality and efficiency of implementation. The project steering committee will also make suggestions to improve the district annual budget and work plans for the project.

A small project coordinating office (PCO), composed of a coordinator, a deputy coordinator, a qualified accountant, and a small support staff, will be based in the social services sector of the Ministry of Finance, Planning, and Economic Development and will take responsibility for the day-to-day coordination of project activities at the national level.

**District.** An existing multisectoral committee—the district coordinating committee (DCC)—will be identified by the Chief Administrative Officer (CAO) to take on the responsibility of coordinating the project at the district level. The CAO will identify a focal person from among the government officers who will coordinate NGO-related and other activities in the project. The lead NGO will be included as a member of the DCC. In districts where no NGO with adequate or appropriate capacity and skill base can be identified or strengthened to take over as the lead NGO, the implementation will be through the district administration.

**Subcounty.** An existing sectoral committee similar to the one at the district level will be responsible for coordinating the project activities at the subcounty level. This subcounty coordination committee will also facilitate linkages between existing structures and those of the project, and along with the lead NGO for the district, approve the subcounty NGO/CBOs' (Community-Based Organizations) annual work plans and funding requirements for the project in the subcounty.

## VIII. Project Impact Evaluation

The government of Uganda is interested in assessing the impact of various aspects of the project in order to ascertain its effectiveness and to guide the design of further NECD projects. Moreover, as the World Bank considers this project to potentially inform other countries regarding NECD services, it has included the project in a three-country evaluation of ECD programs and will provide technical assistance on a grant basis to the PCO to assist specific research activities. In particular, two studies to evaluate the impact of specific project interventions will be undertaken as part of the overall project:

- Parish Child Health Day Study for assessing the coverage of anthelmintic treatments given at parish-level child health days and their impact on the weight gain of children under age six by using a randomized experimental design.
- Survey research using baseline and resurvey methodology for assessing (a) the impact of anthelmintic treatments and of overall project activities on the cognitive development, health, and nutrition of children under six years of age; (b) the impact of the caregiver education component and mass media communication campaign in the knowledge, attitude, and child-rearing practices of the principal caregivers; and (c) the impact of grass-roots management training, income-generating activities and credit savings group formation, and provision of community grants in household and community welfare.

The selected firm will provide technical and logistical support for the above studies and will be invited to participate as local research implementers in the design, data collection, and analysis necessary to complete the two studies of impact assessment. This firm will be the primary counterpart of the PCO, local researchers, and the researchers from the World Bank and the University of Oxford who will be undertaking the impact assessment.

## IX. Overview of Studies

**Study One: Impact of Deworming at Parish Child Days.** There have been a number of studies indicating the impact of treating school-aged children with anthelmintic medicine. However, there is only one large-scale, randomized trial that shows a large effect on weight gain for preschool-aged children. This has raised the question of whether such an effect could be achieved in African children. Thus, the NECD project will include a randomized study of the impact of providing the deworming

agent, anthelmintic albendazole, to young children in 25 selected parishes in the course of parish-based child days and to measure the effect of every-six-months treatments on weight gain. Data will be collected from these parishes as well as 25 control groups that will also organize child health days but will not administer albendazole on a routine basis. If the anthelmintic treatments are delivered successfully and are shown to have beneficial effects on Ugandan children, then the program of anthelmintic treatment may be recommended for all districts.

Because this is a scientific controlled trial, the selection of parishes that will be asked to administer albendazole will be undertaken by the PCO from a list of parishes where child days will be organized (this list will be provided by the NGOs working in the districts). The PCO will also select parishes that will serve as the control group. This experimental design is key to a successful evaluation.

The firm will ensure that the local NGOs responsible for the organization of the child health days in the parishes are aware of the rationale for the experimental design and that they comply with the strategy. Each child aged 12 months or older and under 6 who attends the fair in the 25 designated parishes will be given a single 400-milligram tablet of chewable, proprietary albendazole. The albendazole will be administered every six months; in the event that the NGOs choose to organize child days on a more frequent basis, the anthelmintic will still be administered on a six-month schedule and not more often.

Children in parishes where albendazole is administered as well as children in the 25 designated control parishes will be weighed at each child day, and their weights will be recorded both on their own health card and on the community register. Children who are too small to stand on the scale unaided will be weighed in their mother's arms after the scale has been set to zero with the mother standing alone on the scale. These weights will be recorded to the nearest tenth (0.1) of a kilogram. The data on the community registers are the responsibility of the local NGOs, although the firm will work with the NGOs to ensure that the data collection system is compatible with the full range of objectives of the study.

The firm consultant will transcribe these weights on a pro forma to be designed in collaboration with technical advisors from the World Bank and the University of Oxford. This data transcription will be undertaken every six months after the child day in the project area. In addition to the child's ID (a unique combination of the parish ID, the village ID, and the individual ID recorded on both the child's own card and the community register), the data on the pro forma will include the child's gender; the date of birth of the child taken from the child's health card or, if that is not available, the age of the child taken from the parish register; the date of the child fair at which the weights were recorded; and whether or not the

child took a dose of albendazole. These data will be entered in a computerized record in Kampala. The individual ID will provide the basis for merging the data from different periods, and thus the ID must be recorded each time the data are transcribed and must remain constant for a child over the entire project.

The local circumstances and conditions at each child day that may deter mothers from attending will also be recorded. These include data on the state of the harvest and the weather conditions, both of which may deter mothers from attending. Any special methods and opportunities used to advertise each child day will be recorded because different forms of advertising may affect attendance. The record should also include an estimate of the number of children who visited the child day from other parishes and who did not have ID numbers obtained from the organizers of the child day.

The experiment will last two years. Thus, the firm consultant will record the data five times for each parish. That is, the firm consultant will collect the data at the beginning of the project and at 6, 12, 18, and 24 months after project initiation.

A complete copy of the data will be sent to the PCO every six months. These copies of the data will be considered the deliverable services of the first study of the project. Preliminary analysis will be undertaken at the University of Oxford on a semiannual basis. However, the firm is requested to nominate a representative who will participate in the main analysis to be performed at the end of two years. This representative will be provided travel and living expenses to work on the analysis at Oxford. The funds for this travel are budgeted in a separate line item and therefore need not be included in the contract covered by the request for proposals.

**Study Two: Overall Impact of NECD Interventions.** Household surveys and community surveys will collect baseline and follow-up information needed to evaluate the impact of the various project activities. The surveys will have several modules, which will measure:

- Cognitive development and growth of children under six years of age resulting from anthelmintic treatments and of overall project activities—Study Two will assess longitudinal growth and psychosocial and cognitive development outcomes in a cohort of children in communities participating in the project (with and without anthelmintic treatment) compared with a cohort of children in nonparticipating communities. Both cohorts will be followed for two or more years. The study will therefore complement the study of deworming at the parish level by allowing a greater understanding of the decision to take children to child days and to measure whether, over time, participation

leads to an increase in measures of cognitive development. Moreover, by including communities that do not receive any ECD services, the study will assess whether the package of services leads to improvements in nutritional status and cognitive development.

- Changes in knowledge, attitude, and child-rearing practices of the caregivers resulting from project parental education and the mass media campaign.
- Improvement of the health and nutrition of children under six years of age resulting from growth-monitoring activities, preventive health and nutrition education, anthelmintic treatments, and overall project activities.
- Household welfare resulting from community grants, grass-roots management training, income-generating activities, and credit savings group formation.
- Community characteristics and changes resulting from the project interventions (or otherwise) that could have an impact on child well-being during the duration of the project.

**Sample Selection.** The basis for this study will be a baseline survey collected at the time services are first delivered to the communities and a follow-up survey collected from the same households two years after the initial survey. One-third of the sample will be drawn from the same 25 parishes in the treatment (anthelmintic) group and another third from the control groups studied in Study One. In addition, one-third of the sample will come from villages in 25 parishes in the same districts as the treatment groups but that are not expected to receive services from the NECD project. Thirty households will be selected from each parish. This implies 750 households per strata (2,250 total) in the initial survey. Given expected sample attrition, 5–10 percent fewer households are expected in the resurvey.

To collect the sample in the treatment and control parishes, all households in each parish (there are approximately 700 households in a parish on average) will be listed, possibly by a resident of the community. This list will contain the name of the household head, an indication of the location of the household, and the number of children under age six in the household. This list will serve two purposes. First, a sample of 30 households containing at least one child under the age of six per parish will be selected by a random draw. Second, the total number of children under six will serve as an estimate of the potential coverage of children in child days and thus assist in determining the rate of attendance.

Because the NECD project will have less contact with the communities that have no current NECD activity, the selection of households that receive no ECD service should use cluster sampling to reduce the costs of

sample listing. In particular, one subcounty that is not in the project should be selected for every subcounty that is in the treatment group, preferably one that is adjacent to it. All parishes in these subcounties should be listed and a random draw of 25 parishes from the total list will be selected. Two villages from each parish selected will then be chosen, again using a list of all the villages in the parish. This step reduces the number of villages where a census will need to be conducted. The census—similar to the one used in the treatment and control parishes—will form the list of households used to draw the sample of 30 households per parish. This will be the third stratum of the survey.

The initial baseline survey should be undertaken in mid-1999. This timing is based on the need to know the subcounties and parishes in which the NGOs will be operating in order to employ the suggested sample design. This timing is also based on the assumption that the selection and training of lead NGOs will not be completed until late 1998.

The development and pretesting of the questionnaire, however, should be undertaken much earlier than this (early 1999) in order to be ready to implement the survey as soon as the NGOs have identified the parishes in which they will be working. As the baseline needs to be fielded before the first deworming, the ideal time for the baseline survey is concurrent with the initial community organization that will lead to a child day. Because the sample of 30 families in each parish is small relative to the total population, it is unlikely that the survey data collection will disrupt other activities or overburden the communities. The data collection in the control groups (those with NGO activity but no deworming and those with neither) should be simultaneous with the data collection in the treatment group.

**Survey Instruments.** The basic questionnaires to be used for the survey project are household questionnaires (which gather data at the level of the household and individuals) and community questionnaires.

## X. Household Survey

Household data will be collected by using a precoded schedule. This will be drafted on the model of the Living Standards Surveys used in more than 30 countries. A first draft will be provided by researchers from the World Bank. However, the instrument will be both abridged to accommodate the particular needs of the project and adapted to local conditions by using focus groups and a pretest procedure undertaken by the firm. The household questionnaire will contain modules to collect data on:

1. Sociodemographic characteristics: A roster of individuals residing in the household in the past 12 months, their age and gender, as well as their schooling and type of employment (if any). The coding format

will indicate the parents of all children, if present—if not present, whether the parents are still living. A detailed list of assets will be collected to serve as an indicator of socioeconomic status.

2. Knowledge, attitude, and practices: The questionnaire will also collect information on the knowledge, attitudes, and child-rearing practices of the principal caregivers.
3. Anthropometric data: Weights will be recorded to the nearest tenth (0.1) of a kilogram for all children under the age of six by using digital scales that are to be provided. In addition, heights will be collected for all children between the ages of two and six. The pretest will be used to determine whether it is feasible to collect the weights of the mothers of these children (if living in the households) as well.
4. Cognitive assessment: The firm will work with other local and international research consultants to the PCO to integrate tests of child cognitive development into the overall field data collection. In the baseline survey an internationally recognized test of cognitive development will be administered to children aged 4.0–5.99 years. This test will also be administered to the same age group in the second round of the survey, allowing a comparison of cohorts. In addition, a subset of children aged 6–7.99 years at the time of the second round will be administered this test. (Annex table 2.1 summarizes this strategy.)

In addition, knowledge assessments based on specific content from the program and a dynamic assessment may be developed for the second round of the survey. The inclusion of these measures will be evaluated during the course of the project. Finally, a school performance measure will be developed for assessing knowledge acquired in the first year of school and administered to a subset of older children in the resurvey. Existing tests might be adapted.

5. Child health: Morbidity data (including number and kind of symptoms, levels of severity, length in time), patterns of access to and utilization of health services, sanitation, and so forth.
6. Household economy: The best approach to collecting this information will be extensively explored in the pretest phase and assessed jointly with advisors from the PCO prior to finalizing the questionnaire. The variables may include food expenditures; agropastoral activities; consumption of home production; nonfood expenditures; housing characteristics; inventory of durable goods; employment; economic activities; income; land; crops and animals; income from project activities; household enterprises; asset ownership; credit and savings information on amount of money and goods lent and borrowed, if money and goods have been borrowed in the past 12 months; savings and net debt the day of the interview; information on loans, including the schedule, reason for borrowing, and number of loans from the same source; and

location of savings, if any, including bank, housing savings bank, rural savings bank, and so forth. This information will be part of the baseline and final surveys only.

## XI. Community Survey

Community questionnaires will be used to gather information on local conditions that are common to all households in the area. The best approach to collecting this information will be extensively explored in the pretest phase and assessed jointly with advisors from the PCO prior to finalizing the questionnaire. The variables may include:

1. Demographic information: number of households, total population, population under six, ethnic groups, and religions;
2. Economic information, including principal economic activities and patterns of migration for jobs;
3. Infrastructure: access to roads, electricity, pipe water, market, bank, and public transport. Condition of local infrastructure, such as roads, sources of fuel and water, availability of electricity, and means of communication;
4. Local agricultural conditions and practices: type of crops grown in the community, how often and when they are planted and harvested, how the harvest is generally sold, and qualitative data on rainfall, climate conditions, and seasonality;
5. Education: number and types of preschools, formal and informal ECD arrangements, distance to schools, number of classes, enrollment rates (gross and by gender), attendance, grade progression, health and nutrition services provided at school (for example, school health programs, school lunch);
6. Health: type of health facility and distance and travel time to the nearest of each of several types of health facilities (hospital, pharmacy, health post, and so forth). Distance and travel time to the nearest of each of several types of health workers (doctor, nurse, pharmacist, midwife, community health worker, and so forth); and
7. Other: number and type of active local NGOs/CBOs, other child related projects or interventions (for example, government vaccination campaigns), and other community development projects.

**Suggested Survey Staff.** The survey staff should be constituted as follows:

- Core survey staff: composed of the survey manager, the field manager, the data manager, and the data entry staff who will be responsible

for overall field supervision, coordination, and monitoring of data collection and data entry and data management activities.

- **Field survey staff:** the field operations will be conducted by teams composed of a supervisor, two (or three) interviewers responsible for the main questionnaire and the anthropometric measurements, and a driver. A similar number of specialists who will participate in administering tests of cognitive development to the children will be selected and trained in collaboration with local and international experts.
- **Coordinator for the randomized trial:** the coordinator will assist in the development of the data collection instruments, training of local NGOs responsible for the organization of the child days in the parishes on the experimental design, data collection, and data transcription. He or she will oversee data entry and management of the study data set and will participate in the main analysis to be performed at the end of the study.

**Organization of Fieldwork.** The firm will participate in the drafting of the field instruments prior to the pretesting of the survey and will have primary responsibility for the pretest. After the pretest the questionnaire will be redesigned (in partnership with researchers from the World Bank) and then translated into local languages.

The firm will work with other local and international research consultants selected by the PCO to integrate tests of child cognitive development into the overall field data collection. The local ECD researcher, assisted by international consultants, will select and adapt the principal cognitive test to be used and will train the testers.

The following organization of fieldwork is suggested. This is based on international experience and designed to ensure quality control. Some variation of this approach might be agreed upon in consultation with researchers from the World Bank based on the experience of the firm and other advisors to the PCO and information gained during the pretest.

The fieldwork will be organized into small teams consisting of a supervisor, two (or three) interviewers responsible for the main questionnaire and the anthropometric measurements, and a similar number of specialists in administering tests of cognitive development to the children. These staff will be trained in Kampala by the local ECD researcher in coordination with international advisors on psychological testing. The training will include a discussion of the research objectives, a review of each step of the interview, practice training in the office, a dry run in the field, and a recap of experience after this dry run.

Once teams are trained they should be retained for the entire round of the survey, if possible. However, because a few staff may prove to be unsuitable during the fieldwork, it is advisable to train a few extra staff. It

is not advisable to hire staff to work for a few days only in one parish and then new staff in the next parish because this results in inexperienced staff. All staff should receive new training at the beginning of the resurvey.

During the administration of the cognitive test, children should, to the degree possible, be alone with the interviewer. In no case should another person (adult or child) respond to the questions asked of the child. However, during the resurvey the test for the subset of eight-year-olds may be administered in a group format if it proves convenient.

The supervisor will be responsible for ensuring that the interviewers undertake the survey in the households chosen for the sample without substitution and that all children in the appropriate age groups are administered the tests of cognitive development. In addition, the supervisor will review each questionnaire after completion (prior to the team moving to a new parish) to ensure that there are no gaps in the questionnaire and to see that seemingly inconsistent information is verified.

The firm will enter all survey data as soon after collection as possible. Copies of the household- and child-specific data and rating scales along with the documentation necessary to access the data will be provided to the PCO in a computerized format at the end of the baseline survey. The original questionnaires should be retained by the firm because the original data will generally need to be accessed during the course of the analysis.

The child-level data must contain accurate identification codes that can be matched with the household survey codes. Although the unique individual and household codes provided to the PCO need not contain the names of the households or their exact location, this information must be stored by the firm in a manner that makes it possible to revisit the household at a later date. Because one step in the analysis will link individuals in the resurvey with their test results from the baseline, all individual and household codes must be held constant over the three surveys.

## **XII. Specific Tasks for Survey Specialists**

The firm will participate in the following activities in collaboration with the PCO, local researchers, and researchers from the World Bank and the University of Oxford and implementing NGOs:

- Revision of work programs.
- Development and adaptation of the data collection instruments and support documentation, including listing materials, questionnaires, coding guides, interviewer and supervisor manuals, manual of operations, data entry manual, and field procedures.

- Revision of various drafts of documents, layout, translation, back-translation, and field testing. Provide hard copies and electronic versions of all documentation to PCO. Forward questionnaires to the World Bank researchers for their review and revision prior to the pilot test.
- Dwelling listing and cartographic updating. The responsibilities for listing of households and dwellings in each selected parish include obtaining base maps, preparing listing materials, contacting local officials to inform them about the listing operation, identifying boundaries, drawing maps, listing households in a systematic manner, obtaining preliminary information on households, including name of the household head, an indication of the location of the household, and the number of children under age six in the household; documenting procedures at the time of the sample design, at the end of the fieldwork, and at the completion of the data file.
- Preparation of sampling framework (with sampling specialist), training of staff to implement the designed sample, supervision of the implementation stage to ensure the quality of the sample selected, and provision of a detailed report outlining all the steps involved in the design and implementation of the sample.
- In consultancy with the World Bank, participation in determining an appropriate strategy for identifying comparison groups (that is, non-project parishes).
- Selection and training of field workers. This activity consists of all the work necessary to develop training materials and manuals for all persons involved in fieldwork. Training will be required for interviewers, supervisors of interviewers, supervisors of teams, data entry personnel, and anthropometric personnel.
- Field operation, including logistical arrangements for data collection and obtaining household and individual consent; keeping a study household register.
- Production of progress reports: The firm will prepare fieldwork progress reports (at six-month intervals) copied to the PCO and the World Bank. The firm should also prepare a basic description of the survey. This should include the survey content, the sample plan and its implementation, and the fieldwork techniques used. A full questionnaire and basic documentation should be included as appendixes.
- Development of a data entry program using software that can check for ranges and consistency of the data and generate reports indicating missing data, data outside of the accepted ranges, and inconsistent answers.
- Data cleaning, data entry, database management, and tabulation plans, including development of data entry program, data entry manual, data entry operator training, data quality checks, and guidelines

for using the data. Also, coding open-ended questions, verification of the data, checking anthropometric data against standard reference tables.

- Enforcing data use policy agreement: The firm and researchers involved in the process of data collection and analysis will sign a memorandum of understanding with the PCO that will explicitly state the policy regarding issues such as access to data, intended users, procedures for obtaining copies of the data sets and documentation, and publication and authorship rules.
- Conducting data analysis: The firm will conduct exploratory data analyses (for example, frequencies, percentage tabulations, and cross-tabulations) of key survey variables and their correlates. The firm will conduct modern statistical modeling of impacts after rounds 2 and 3 to determine overall progress in social indicators (for example, nutrition, health, incomes, and community development) and the factors that account for the changes or lack of changes.
- Producing analyses reports: The firm will report on the findings after rounds 2 and 3 of the surveys based on the analyses of the social indicators and the covariates. The firm will coordinate with the PCO and the World Bank on the Parish Child Health Day Study and on the collection of impact on cognitive development but will not be responsible for the final reports on the result of these studies.

Specific tasks for the community survey include the following:

- Work with advisers from the PCO in the development of the community questionnaire and extensively explore in the pretest phase the best approach to collecting this information;
- Work closely with the implementing agencies (lead and local NGOs) in the collection of the community data;
- Contact local officials and community leaders to explain the project impact evaluation approach and obtain communal consent for survey research and the child health day study;
- Interview key informers and obtain maps, lists, and other community records;
- Obtain lists of health and education facilities (pre- and primary schools), including geographic location, catchment area, and type of establishment (for example, private or public);
- Obtain community demographic information, including number of households and population by gender and age; and
- Obtain other data required in the community questionnaires.

Specific tasks for the child day study include the following:

- Participation in the development of the study protocol,
- Development of data collection instruments,
- Training of local NGOs responsible for the organization of the child days in the parishes for the experimental design,
- Supervision of data collected during child day,
- Data transcription,
- Data entry and management, and
- Participation in the main analysis to be performed at the end of the study.

**Annex Table 2.1 Proposed Sample Sizes for Impact Evaluation of Nutrition and Early Child Development Project, Uganda**

Category	Deworming and parent education		No deworming and parent education		No deworming and no parent education		Total
	Baseline	Second round <sup>a</sup>	Baseline	Second round	Baseline	Second round	
No. of parishes	25		25		25		
Time	Baseline	Second round <sup>a</sup>	Baseline	Second round	Baseline	Second round	
No. of households	750	700	750	700	750	700	2250
No. of children weighted at child days <sup>b</sup>	5000	5000	5000	5000			20000
No. of children aged 0–5.99 with anthropometry in the home (mean two per family) <sup>c</sup>	1500	1395	1500	1395	1500	1395	11580
No. of children given cognitive tests: test all children aged 4.0–5.99 in households	500 <sup>d</sup>	465 <sup>e</sup>	500	465	500	465	2895
No. of children aged 6.0–7.99 given cognitive test and anthropometry		subset <sup>f</sup>	—	subset	—	subset	subset

(Table continues on the following page.)

**Annex Table 2.1** (continued)

Category	<i>Deworming and parent education</i>		<i>No deworming and parent education</i>		<i>No deworming and no parent education</i>	
School enrollment rates	25	25	25	25	25	25
	commu-	commu-	commu-	commu-	commu-	commu-
	nities	nities	nities	nities	nities	nities

a. Assuming a small loss to attrition of 8 percent in two years.

b. Assuming that about 200 children will attend each child day.

c. Two children per family are assumed, but families will be recruited if they have *any* children under six. Family refers here to a pair that consists of a mother (or substitute) and child.

d. This is a maximum; the actual number can vary according to the number of four- to five-year-old children encountered.

e. Assuming the same loss of 8 percent over two years; only children whose parents were interviewed will be tested.

f. Number will be a subset of the children in the age range whose parents were interviewed. They will be linked with the earlier score. Even though the number of children tested increases in the second round, the time for the interviews may decrease because much information will not need to be assessed again. It is also possible that the size of this group will be reduced.

*Source:* World Bank Project Document.

**Validity Study.** In addition to the above, one small longitudinal study will be added to examine the predictive validity of the preschool measure for school performance at the end of the first year of school. In the baseline survey, two children per community aged 6.0 to 6.9 (not yet in school) will be tested, for  $N = 150$ . These children will be located at the posttest and given a school performance test two years later, at ages 8.0 to 8.99.

**Task Schedule.** The tentative timetable for the task schedule is as follows:

Month 1. Begin the process of constructing indicators of cognitive development in conjunction with international consultant and in accord with terms of reference. This process may take up to six months.

Month 2. Initial pretest and revision of the questionnaire.

Month 5. Begin listing of households for sample selection. This step is dependent on the selection of the lead and local NGOs. It cannot be done until the PCO and NGOs choose the parishes where child days will be organized and then select the sites for the initial deworming program. At

the same time the questionnaire should be translated and field tested again.

Month 7. Begin collection of data at child fairs for the deworming study. Data will be collected at these fairs at six-month intervals. As above, the timing of this step is dependent on the selection of the lead and local NGOs.

Month 8. Training of field staff for household survey and initiation of survey. The survey should take approximately three to four months depending on the number of teams employed. Data entry should be concurrent with data collection.

Month 14. Initial analysis of baseline data. This will be an ongoing process.

Month 20. Staff from the firm visit the University of Oxford to participate in analysis of initial data.

Months 20–36. Collection of data for round 2 for deworming study.

Midterm and final household surveys will be conducted two and four years after baseline.

### **Support to Firm**

No specific support will be given to the firm to carry out assignments. Firms are advised to include all requirements for effective carrying out of the assignment in their proposals.

## **Example II: Rural Roads Impact Evaluation: Vietnam 1997 Baseline\***

### **Terms of Reference: Baseline Survey for Rural Roads Impact Study**

#### **I. Background**

The study aims to assess the impact on living standards of the World Bank–financed Vietnam rural transport project that were implemented in 15 poor provinces over three to five years starting in 1997. The study’s overall focus will be on how the determinants of living standards are changing over time in communes that have road project interventions compared with ones that do not. This requires the collection of preproject baseline data for both project (“treatment”) areas and nontreatment control areas and a number of further data collection rounds of postintervention data at two-year intervals. A detailed commune level database will be created in part by drawing on annually collected records at the commune level. The latter will be augmented by the collection of retrospective commune-level data and the collection of various other key supplementary data. A short district-level survey will help put the commune-level data in context. Finally, 10 to 15 households will be randomly sampled from commune-level household lists and a short household questionnaire will be administered. The study will be conducted in 6 provinces out of the 15 that will benefit from the project. The 6 provinces will be representative of the 6 geographical regions of Vietnam. A random sample of about 200 or so project and nonproject communes will be drawn. Six teams will be set up to simultaneously survey each province. The survey should begin in April and finish about August. Data should be available about October or November.

#### **II. Survey Design**

**Sampling.** Sampling will be done in three levels:

1. Provinces: The 15 project provinces are located in Vietnam’s six geographical regions. Criteria for selection of survey provinces will be the

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\* These terms of reference were prepared by Dominique van de Walle.

following: (a) one province will be selected in each geographical region; and (b) when there is more than one possible project province in each region, a random selection will be made.

2. Communes: The aim is to survey 200 or more communes, which are randomly selected. About half or less (not more) should be communes with road link projects, the rest controls. A list will be drawn of nonproject communes in the six provinces (or alternatively one list for each province) and a random sample will be drawn. Similarly, a list will be drawn of all communes benefiting from road projects in the six provinces (or by province). This may be more than one commune per road link; all will be included in the sampling frame. From these a random sample will also be drawn. The sample will not necessarily include both communes linked by a road project. If access to certain sampled communes is impossible, it will be replaced with another commune in the district that is similar.

3. Households: In each sampled commune, a household survey will be administered to 15 households. These (plus perhaps a few replacement households) will be randomly selected from the commune household lists. After selection, the commune authorities will be asked about where the households fall in the very poor, poor, average, not poor, and rich classifications.

### **III. Survey Process**

Six survey experts will be hired to conduct the surveys in the six provinces. After their training and the field testing of the questionnaire, they will begin surveying simultaneously in each province. In the districts, surveyors will need at least one local staff from the district project management unit to help with contacting local authorities and in some cases to help find suitable guides and interpreters in minority areas. Survey assistants or assistance from the provincial project management units will be hired as required.

Each surveyor will collect data from 35 communes on average, the districts they belong to, and 15 or so households per commune. Three to four days will be needed for each commune. The time spent in the field will be about 100 to 140 days (four to five months). The total time will be six months.

During the survey period, the supervisor will conduct field visits to all six provinces to supervise data collection and ensure high quality.

The collected data will be cleaned and entered by using a data entry program.

Annex table 2.II.1 gives an estimated timetable for the study.

**Annex Table 2.II.1 Timetable for Impact Evaluation Study, Vietnam**

	<i>Jan.</i>	<i>Feb.</i>	<i>Mar.</i>	<i>April</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug.</i>	<i>Sept.</i>
Design questionnaires	****	****							
Field test survey		****							
Revise questionnaires			****						
Adapt data entry program, translate and print questionnaires			****						
Hire and train surveyors			****						
Survey in field				****	****	****	****	****	
Check data								****	****
Perform data entry									*****

#### IV. Other

**Equipment.** The equipment purchased under the project will belong to the project as long as the study continues (through future rounds) but when not in use by the team it will be housed in the Project Management Unit for the team's use.

**Budget Disbursements.** The budget for the study (excluding payments to the main investigator, who will receive monthly installments) will be disbursed in three installments. The first, upon signing of the contract, will consist of 20 percent of total funds. The second installment, consisting of 50 percent of the total budget, will be disbursed once the commune, household, and district questionnaires have been finalized and approved by the World Bank task manager. This is expected to be sometime in late March. The third and final installment will be disbursed in late July or halfway through data collection. Estimated budget details are shown in annex table 2.II.2.

**Annex Table 2.II.2 Estimated Study Budget**

	No.	Time	Amount (US\$)	Total (US\$)
1. Main investigator	1	9 months	1,000	9,000
2. Survey experts	6	6 months	400	14,400
3. Travel allowance for six surveyors, six local guides and interpreters	12	125 days	8	12,000
4. Car and other transport for six survey teams	6	125 days	40	30,000
Car rental for main investigator	1	30 days	50	1,500
5. Air tickets Hanoi- Ho Chi Minh-Hanoi For surveyors (south provinces)	6 3 persons		200	1,200
For main investigator	3 trips			
6. Training of surveyors	12			1,338
Payment		1 week	50	
Travel to field		3 days/ 3 cars	50	
Allowance		3 days	8	
7. Field test of questionnaire (South and North communes)	1	2 weeks		2,000
8. Data cleaning and entry	2	2 months	200	800
9. Survey materials				2,000
10. Communications (fax, phone, email, Xerox)				2,000
11. Equipment				5,000
Computer (PMU18)	1		1,700	
Printer (PMU18)	1		1,000	
Fax machine (study team)	1		500	
Laptop computer (study team)	1		1,800	

(Table continues on the following page.)

**Annex Table 2.II.2** (continued)

	No.	Time	Amount (US\$)	Total (US\$)
12. Translation (questionnaire, manuals, documentation) 200 pages			8/page	1,600
13. Printing, Xeroxing				800
14. Contingencies				1,362
Total				85,000

## **Terms of Reference: Survey Supervisor or Main Investigator**

### **I. Job Description**

The in-country survey supervisor or main investigator will be responsible for the study's baseline survey work within Vietnam. Responsibilities include determining availability of information at the commune level; helping to revise and finalize the district-, commune-, and household-level questionnaires; field testing the questionnaire; incorporating revisions to the questionnaire; arranging for the questionnaire to be translated; hiring and training the assistants; planning the field work logistics; preparing survey implementation and questionnaire documentation; supervising survey implementation and ensuring quality control; and supervising the project database and arranging for data cleaning and entry. The person will also act as the liaison with the Ministry of Transport's Project Management Unit PMU18, the World Bank resident mission, the Canadian International Development Agency representative in Hanoi, and the project task manager at the World Bank in Washington. The person will report directly to the task manager. The person will start as soon as January 1997; the contract can be processed for a period of nine months at a rate of \$1,000 per month.

### **II. Specific Tasks.**

Specific tasks include the following:

1. Assuming responsibility for hiring, drafting detailed terms of reference, training and supervising six main assistants who will work with

- local assistants (possibly from the local transport office) in the field and will be responsible for the collection of the district-, commune-, and household-level data;
2. Exploring of data availability at the commune level and working closely with the World Bank task manager to design the final versions of the questionnaires;
  3. Carrying out a field test of the questionnaires in both South and North rural communes; reporting back on potential problems and necessary revisions; revising the questionnaires when needed;
  4. Arranging for the questionnaires to be translated, printed, and Xeroxed (the final versions of the questionnaires will be available in both English and Vietnamese);
  5. Choosing the six provinces to be included in the survey so that there is one province to represent each geographical region—when there is more than one such province, the sampled province is chosen randomly; drawing up a random sample of around 200 rural communes in the six provinces, including about half with projects and the rest without projects;
  6. Planning all fieldwork logistics, including arranging for transport, drivers, travel allowances, the schedule of commune surveys, and alerting commune administrations of team arrivals and purpose;
  7. Participating in survey implementation, alternating between the teams in a supervisory role; ensuring quality control; identifying problems affecting survey implementation, checking quality and completeness of data collected, suggesting ways to solve problems, and implementing them following consultation with the study leader;
  8. Ensuring that future survey rounds can replicate the baseline survey, which requires (a) preparing detailed documentation of all survey implementation design and logistics (how the sampling of provinces, communes, and household was done; how the survey teams were trained and organized; how fieldwork was organized; what procedure was followed when a sampled site was not accessible or a sampled household not found; problems, issues raised, and solutions found); and (b) preparing a detailed manual on definitions of terms (for example, unemployment, income, primary occupation, child or adult, distance), units, currency amounts, codes used in the questionnaires; how the questionnaires are to be administered and to whom; how prices were collected, and so forth; the former should ensure that future rounds of the survey can reproduce the baseline's organization and logistical details, and the latter should be used in training of surveyors and for their work, as well as to aid future users of the data (there will be both English and Vietnamese versions);
  9. Procuring the necessary equipment as itemized in the study budget;

10. Establishing good relations and ensuring close cooperation with PMU18. Keeping them abreast of the study and monitoring project developments; supervising the setting up of a database of project-specific data (the World Bank task manager will identify the data to be included);
11. Arranging and supervising data cleaning and entry by using the provided data entry program; and
12. Acting as liaison and communicating often with the task manager.

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## Annex 3

# A Sample Budget from an Impact Evaluation of a School Feeding Program

Phase I: July 1999–December 2000<sup>a</sup>  
 School Feeding Research Proposal—Baseline and Cross-Sectional  
 Evaluation  
 (July 1999–December 2000)  
 Draft Budget—7/14/1999—US\$

	<i>Staff weeks/Activity</i>		<i>Source of funds/Costs</i>			
	<i>FY2000</i>	<i>FY2001</i>	<i>BB</i>	<i>RPO</i>	<i>Other</i>	<i>Total</i>
<b>World Bank staff</b>						
Economist	4	2	17,640			
Evaluation specialist	5	3	23,520			
Nutrition specialist	5	3	23,520			
Peer reviewer	0.2	0.2	1,948			
Peer reviewer	0.2	0.2	1,948			
						68,577
<b>FES staff</b>						
Study coordinator	4	4			12,000	
						12,000
<b>International consultants</b>						
Situational assessment (incl. travel)					7,000	
Cognitive test development (incl. travel)				6,000		
Sampling specialist				2,000		
Cost-effectiveness study				25,000		
						40,000
<b>Regional consulting firm<sup>b</sup></b>						
Design, sampling, administration				42,000		

*(Budget continues on the following page.)*

	<i>Staff weeks/Activity</i>		<i>Source of funds/Costs</i>			
	<i>FY2000</i>	<i>FY2001</i>	<i>BB</i>	<i>RPO</i>	<i>Other</i>	<i>Total</i>
Fieldwork				25,000		
Data processing				3,500		
Analysis				30,000		
						100,500
<b>Travel to country</b>						
Trips	4	2		12,000		
						12,000
<b>Contingencies</b>						
Communication				1,000		
Software				2,000		
Translation				2,000		
						5,000
<b>TOTALS</b>			68,577	150,500	19,000	238,077
Total Requested from RAD: \$150,500						
Total Requested from Bank budget: \$68,577						
Total Provided by outside sources: \$19,000						

a. Budget estimates for phase II of the evaluation are not included in this proposal.

b. A breakdown of these costs is provided on the next page.

**Estimated Budget—Local Data Collection and Analysis for Phase I**  
**School Feeding Impact Evaluation**  
 Costs in US\$

	<i># People</i>	<i># Staff weeks</i>	<i>Weekly rate</i>	<i>Total</i>
<b>Professionals</b>				
Director	1	12	2,000	24,000
Education specialist	1	8	1,500	12,000
Nutrition specialist	1	8	1,500	12,000
Statistician/sampling	1	12	750	9,000
Fieldwork manager	1	8	750	6,000
Programmer	1	10	300	3,000
Data processing supervisor	1	8	300	2,400
Assistant – surveys	1	10	100	1,000
Assistant – anthropometrics	1	10	100	1,000
Assistant – cognitive tests	1	10	100	1,000
Data quality control	1	8	100	800
Subtotal—Professional staff				72,200
<b>Fieldwork staff</b>				
Supervisor	4	6	200	4,800
Cognitive tester	4	6	120	2,880
Anthropometrist	4	6	120	2,880
Interviewer	4	6	120	2,880
Driver	4	5	100	2,000
<b>Fieldwork equipment</b>	<b>People/units</b>		<b>Cost per week or unit</b>	
Vehicles (4 vehicles for 5 weeks)	4	5	350	7,000
Gasoline (4 vehicles for 5 weeks)	4	5	80	1,600
Scales; rulers (5 sets)	5		20	100
Cognitive test equipment (for 4 testers)	4		20	80
Survey equipment (for 4 interviewers)	4		20	80
Subtotal – Fieldwork				24,300
<b>Data processing</b>	<b>People</b>			
Data coding	3	7	75	1,575
Data entry	4	7	75	2,100
Subtotal—data processing				3,675
<b>Total</b>				<b>100,175</b>

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# Annex 4

## Impact Indicators—Evaluation of Bolivia Social Investment Fund

Developed November 1997

### I. Formal Education—Schools Type “A” and “B” (multigrade and regular)

#### 1. Final Impact Indicators

Achievement in Mathematics and Language tests<sup>a</sup>

Repetition rate

Dropout rate

Enrollment

Instruction level

Demand for education (percent of students rejected from school)<sup>a</sup>

#### 2. Intermediate Impact Indicators

Regularity in student attendance

Regularity in teacher attendance

Students’ time allocation/hours spent studying

Classroom teaching method<sup>a</sup>

Turnover in teaching staff<sup>a</sup>

#### 3. Intervention Indicators

Infrastructure

Ratio students/classroom

Number of classrooms in “good shape”

Number of missing classrooms

Availability of multifunctional area

Availability of basic services

– Electricity

– Source of main water supply

– Type of sanitation service; condition of the sanitation service

Furniture

Ratio students/desk

Ratio teacher’s tables/classroom

Ratio teacher’s chairs/classroom

Ratio “adequate blackboards”/classroom  
 Ratio shelves/classrooms  
 Texts and didactic material  
 Ratio texts/student  
 Quality of mathematics, language, social studies, and natural sciences texts  
 Availability of teachers’ texts  
 Availability and condition of maps and charts  
 Didactic games by school cycle (prebasic, basic, and intermediate)  
 Availability of an abacus  
 Education Reform Indicators<sup>b</sup>

**4. Factors Affecting Outcomes Not Linked to the SIF Project (Exogenous)**

Nutrition  
 Availability of school breakfast program  
 Cost of the school  
 Teachers’ characteristics  
 Educational background  
 Years of service  
 Training received  
 Methods applied in teaching (in a period of classes)  
 Training received, by topic and course  
 Student evaluation practices (frequency of homework and its correction)  
 Evaluation of the teachers by the students  
 Rationale for dropping out  
 Students rejected by the school  
 Distance between the house and the school  
 Ratio students/teacher

**5. Identification Indicators**

Whether school was prioritized by the Education Reform  
 Programmed cost by project component  
 Actual expenditures by project component

**II. Health**

**1. Final Impact Indicators<sup>c</sup>**

Infant mortality rate  
 Childhood mortality rate

Rates of incidence and prevalence of main diseases  
Prevalence of malnutrition (general, slight, moderate, and severe)

**2. Intermediate Impact Indicators**

Use of government health centers  
Prevalence of tetanus vaccination  
    Place where vaccine was received  
Prevalence of prenatal control  
    Number of prenatal controls  
    Quality of control  
Prevalence of births attended in health centers  
    Quality of attention  
Prevalence of home births attended by medical personnel  
Height at birth  
Weight at birth  
Anthropometric assessments  
    Place where assessment is held  
    Age when first assessment is made  
Incidence of disease and prevalence of immunization by number of doses received  
    Polio  
    Diphtheria-tetanus-pertussis (DPT)  
    Measles  
    Tuberculosis vaccine (TB)  
Knowledge of places to go for immunization  
Incidence and treatment for coughing  
Incidence and treatment for diarrhea  
Prevalence of the knowledge and use of oral rehydration packets  
Clinics' knowledge of prevalence of pregnancy  
Attendance of high-risk pregnancies  
Prevalence of good hygiene habits and use of water  
Duration of lactation

**3. Intervention Indicators<sup>d</sup>**

Quality of infrastructure by type of health center  
Availability of basic services in the health center (drinking water, sewage system, and electricity)  
Adequacy of infrastructure based on established norms by type of health center  
Adequacy of equipment based on established norms by type of health center

- Number of beds in the health center
- Availability of essential medicines by type of health center
- Availability of essential medical instruments by type of health center
- Availability of essential furniture by type of health center

4. **Factors Affecting Outcomes Not Linked to the SIF Project (Exogenous)**

Characteristics of the household

- Quality of household
- Type of household

Basic Services in the household

- Electricity
- Source of water
- Type of sanitary service

Accessibility to basic services

- Distance between the household and the closest health center
- Distance between the sanitary service and the source of water
- Distance between the household and the main source of water

- Hours of availability of water per day
- Sufficiency of amount of water per day
- Availability of water throughout the year

Cost of consultation in the health center

Household head's perception of the quality of:

- "Service" in the health center attended by the household
- "Infrastructure" of the health center attended by the household
- "Availability of medicines" in the health center attended by the household

Household expenses

Personal characteristics of the members of the household

- Age
- Language
- Education level
- Occupation

Geographic characteristics

- Health district
- Health area
- Health sector

Province

Locality

Human resources in the health center (doctors, odontologist, nutritionists, nurses, nurses' assistants, technicians, administrative staff)

Population under the influence area of the health center by age groups

Cost of consultation in the health center

Health interventions not financed by the SIF

**5. Identification Indicators**

Programmed cost by project component

Actual expenditures by project component

**III. Water**

**1. Final Impact Indicators<sup>e</sup>**

Infant mortality rate

Childhood mortality rate

Rates of incidence and prevalence of diarrhea in households

Prevalence of malnutrition (general, slight, moderate, and severe)

**2. Intermediate Impact Indicators**

Incidence and treatment for diarrhea in health centers

Prevalence of use and knowledge of use of oral rehydration packets

Prevalence of good hygiene habits and use of water

**3. Intervention Indicators (of Input)**

Prevalence of training in health topics

Accessibility to basic services

Main source of water

Existence of and type of sanitary service

Distance between the sanitary service and the source of water

Distance between the household and the main source of water

Hours of availability of water per day

Sufficiency of amount of water per day

Availability of water throughout the year

Quantity of water consumed by the household<sup>a</sup>

Quality of water<sup>a</sup>

**4. Factors Affecting Outcomes Not Linked to the SIF Project (Exogenous)**

Use of government (MSSP) health centers

Size at birth

Weight at birth

Duration of lactation

Characteristics of the household

Quality of household

Type of household

Accessibility to basic services

Distance between the household and the closest health center

Cost of consultation in the health center

Household's expenses

Personal characteristics of the household's members

Age

Language

Education level

Occupation

**5. Identification Indicators**

Programmed cost by project component

Actual expenditures by project component

a. Not considered in baseline.

b. To be developed in coordination with Education Reform staff; will be considered exogenous to the intervention unless the SIF Education Reform interventions are considered jointly.

c. General mortality rate, birthrate, global fertility rate, adult mortality, and life expectancy at birth deleted.

d. Training in health topics deleted.

e. General mortality rate, birthrate, global fertility rate, adult mortality (male and female), life expectancy at birth, prevalence of acute respiratory infections, and treatment of coughing deleted.

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## Annex 5

# Template of Log Frame for Project Design Summary for the Project Completion Document or Project Appraisal Document

<i>Hierarchy of Objectives</i>	<i>Key Performance Indicators</i>	<i>Monitoring and Evaluation</i>	<i>Critical Assumptions</i>
<p><b>Sector-Related Country Assistance Strategy Goal:</b> Provide a one-sentence statement of the long-term strategic goal (as reflected in the CAS) to which the project is designed to contribute. The statement should describe substantive development change in the sector(s) of interest.</p>	<p><b>Sector Indicators:</b> 1. Indicators accompanying the sector-related CAS goal involve measurements that are not generally funded by the project but that may be funded by the Bank as part of other work. 2. Normally the borrower would monitor these indicators as part of good-practice sectoral management.</p>	<p><b>Sector and Country Reports:</b> 1. This column identifies where the information for verifying each indicator will be found, and the process involved. 2. Indicators accompanying the sector-related CAS goal are generally monitored and evaluated via various sector or country reports generated outside the project.</p>	<p><b>(From Goal to Bank Mission)</b></p> <ul style="list-style-type: none"> <li>• Assuming that the sector-related CAS goal (stated in the far left box) is achieved in the long term, list any additional assumptions needed to link this goal to the Bank's mission (that is, poverty alleviation).</li> <li>• These assumptions often involve conditions, actions, or responses outside of the</li> </ul>

project and outside of the sector.

**(From Project Development Objective to Sector-Related CAS Goal)**

- Assuming that the project development objective is achieved, list any additional assumptions needed to justify the project's contribution to the stated goal.
- These assumptions refer to the contribution(s) of additional projects, additional inputs, or additional responses from beneficiary groups and institutions that are critical to the achievement of the stated goal.

**Project Reports:**

1. This column identifies where the information for verifying each indicator will be found, and the process involved.
2. Indicators accompanying the project development objective are generally monitored and evaluated via various project reports, supervision mission reports, and evaluation (midterm and final) reports.
3. When data collection is required, specific mention should be made of methods and responsibilities, which may include inquiries from beneficiaries.

**Outcome / Impact Indicators:**

1. Outcome indicators relate to the results to be achieved by the end of project implementation, while impact may not be fully achieved until five or more years after project implementation has been completed.
2. Indicators at the outcome (PDO-level) are not a restatement of those at the output level.
3. Collection of data for measurement of these indicators is generally funded by the project.

**Project Development Objective:**

1. Provide a one-sentence statement of the behavioral change expected from the target beneficiary group or institution(s) by the end of project implementation. Achievement of the objective serves as a simple test of demand for project outputs. The objective should express a single development purpose that is realistic, specific, measurable, and demand-driven. For a guide to setting the project objective, see "Do's and Don'ts for Setting a Project Development Objective" (call x37065 or e-mail M&EHelp@worldbank.org for a copy).

*(Annex 5 continues on the following page.)*

## Annex 5 (continued)

### Output from each

#### Component:

1. State here (in the past tense) the value added by the completion of each component.
2. A correct statement of output value added will be easy to measure (as reflected in the indicators to the right).
3. For simplicity and clarity of the logic, there should be one output statement for each corresponding project component.
4. Each output should correspond in number to its respective component.
5. The project team is generally responsible for ensuring the delivery of the outputs as part of good project design and good implementation, planning, and delivery.

#### Output Indicators:

1. Output indicators have quantity, quality, and time attributes. If time is not stated, the end of project is assumed.
2. Output indicators generally include measures of cost-efficiency.
3. Collection of data for measurement of output indicators is funded by the project.
4. For complex projects, a separate table (perhaps an addendum to annex 1) may be used to provide a more detailed listing of output indicators.
5. It is better to have only a few meaningful and easily measured output indicators than an abundance of indicators for which data collection is problematic.

#### Project Reports:

1. Output indicators are generally monitored and evaluated via various project reports, supervision mission reports, and evaluation (midterm and final) reports.
2. Sources of data for monitoring and evaluating these indicators typically include administrative and management record-keeping systems and summary reports generated by the project.

#### (From Outputs to Project Development Objective)

- Assuming that the outputs listed in the far left box are achieved by the end of the project, list any additional assumptions needed to achieve the project objective.
- These assumptions may encapsulate conditions, policy changes, or expected behaviors of beneficiary groups or institutions that are necessary for project success.
- These assumptions are critical to the achievement of the stated project objective but are outside the direct control of the project.

6. The output indicators are agreed on with the borrower during PCD stage (as to the availability of data and ease of collection), and a baseline is obtained prior to appraisal.

**Project Components/  
Subcom-ponents:**

1. A component is a cluster of subcomponents or activities that are designed to produce a single project output.
2. List each project component as a main heading, followed by the major subcomponents, if any, that are funded as a part of it.

**Project Inputs (budget for each component):**

1. List component inputs in terms of the total cost of each component including contingencies (for example, US\$\_\_\_).
2. For large or complex projects, the costs for subcomponents may also be shown (indented, to separate them from the component costs).

**Project Reports:**

1. Inputs are generally monitored via progress reports and disbursement reports (both quarterly).
2. Inputs are generally evaluated via supervision mission reports (semiannual) and audit reports (annual).

**(From Project Components to Project Outputs)**

- Assuming that the components and activities listed in the far left box are implemented successfully, list any additional assumptions needed to achieve the stated outputs.
- These assumptions are conditions outside the direct control of the project and are required if the stated project outputs are to be achieved.
- The project itself should not be spending money to achieve any of these conditions (since such assumptions are included in the components themselves).

*Source:* Operational Core Services Department, World Bank. For completed examples of this annex, visit the M&E Help Desk on the Bank's internal Web at <http://Lnts012/helpdesk.nsf>.

## Annex 6

# Matrix of Analysis

### Nicaragua Emergency Social Investment Fund Impact Evaluation — 1998

<b>A. Poverty Targeting Issues</b>	<i>General Indicators</i>	<i>Methodologies</i>	<i>Comments</i>	<i>Source of data</i>
Poverty levels of SF communities/ districts	<ul style="list-style-type: none"> <li>• Percent of households in community or district below poverty line or consumption levels of extreme poor</li> </ul>	Requires household income and consumption survey and identification of SF activities by community and district	To compare across countries, need similar definitions of poverty lines	Oversampling national household survey (LSMS) in SF communities—only for education, health, water, and sanitation projects
	<ul style="list-style-type: none"> <li>• Mean consumption level in social fund participant communities versus consumption level in country</li> </ul>	Requires household income and consumption survey and identification of SF activities by community and district		Oversampling national household survey (LSMS) in SF communities—only for education, health, water, and sanitation projects
	<ul style="list-style-type: none"> <li>• Poverty map index (as used by SF)</li> </ul>	Maps usually use proxy measures, like a compos-	Disadvantages are that it arbitrarily chooses indi-	SF uses poverty map based on LSM93 data

<p>ite poverty index based on mix of variables</p>	<p>cators and weights, and each country has different index. Advantage is that it often provides more geographical disaggregation than income and consumption surveys—the two can be linked to derive predicted consumption levels at disaggregated levels</p>	<p>using composite poverty index; will update using LSMS98 and Census data to predict consumption at subnational levels</p>
<p>Poverty levels of SF beneficiaries (household level)</p>	<p>Income and consumption survey that picks up SF beneficiaries either by size of SF or by oversampling in SF communities</p>	<p>Oversampling national household survey (LSMS) in SF communities</p>
<ul style="list-style-type: none"> <li>Percent of beneficiaries below poverty line or in extreme poverty</li> </ul>	<p>Income and consumption survey that picks up SF beneficiaries either by size of SF or by oversampling in SF communities</p>	<p>Oversampling national household survey (LSMS) in SF communities</p>
<ul style="list-style-type: none"> <li>Mean consumption level of beneficiary households versus national average for similar households per project type (for example, with children in primary school, with access to piped water, who use latrines)</li> </ul>	<p>Income and consumption survey that picks up SF beneficiaries either by virtue of size of SF or by oversampling in SF communities; can also oversample in “match” communities without SF interventions</p>	<p>Oversampling national household survey (LSMS) in SF communities</p>

*(Matrix continues on the following page.)*

**Matrix** (continued)

<i>Issues</i>	<i>General Indicators</i>	<i>Methodologies</i>	<i>Comments</i>	<i>Source of data</i>
Distribution of SF resources	<ul style="list-style-type: none"> <li>Percent of SF projects and resources in bottom quintile of districts</li> </ul>	Need consistent ranking methodology across countries		Need to review ranking system and recalibrate
Institutional design features that affect SF targeting performance	<ul style="list-style-type: none"> <li>Use of poverty map</li> <li>Promotional efforts</li> <li>Direct access by beneficiary groups</li> <li>Share of projects by requesting agency</li> <li>Decentralized offices</li> <li>Target resource allocations</li> <li>Subproject menu</li> </ul>	Develop standard institutional variables that can be used to explain targeting outcomes—variables easily obtained from SFs		Information available from SF
Other factors affecting targeting performance	<ul style="list-style-type: none"> <li>Age of SF</li> <li>“Social capital” of community</li> <li>Distance to SF headquarters</li> <li>Highest education level of beneficiaries</li> <li>Presence of government or NGO interventions</li> </ul>	Also need standard definitions for variables—variables obtained from SFs, household surveys (with identification of SF beneficiaries), and national surveys		Only indicator in doubt is the “social capital of community”

- Degree of country income inequality
- Comparison of alternatives
- Percent of SF projects and resources in bottom quintile of districts versus other comparable programs and delivery mechanisms
- Compare targeting performance based on geographical location or poverty levels of beneficiaries, depending on survey design, scale of SF and other programs
- Difficult to find viable comparators; need separate information gathering from comparator programs
- Planned for cost-efficiency analysis

<b>B. Benefits</b>		<i>Case Study:</i>
<i>Issues</i>	<i>General Indicators</i>	<i>Nicaragua</i>
	<i>Data sources/ methodologies</i>	<i>Comments</i>
Physical capital	<ul style="list-style-type: none"> <li>• Extent to which sub-projects respond to community priorities</li> <li>• Beneficiary perception of benefit level and improvements to welfare</li> <li>• Improvement in access to social and economic beneficiaries</li> </ul>	<ul style="list-style-type: none"> <li>• Covered in IDB-financed Beneficiary Assessment and Facilities Survey</li> <li>• Covered in household survey and IDB-financed Beneficiary Assessment</li> <li>• Some recall questions in household survey, need to have either baseline or recall ques-</li> </ul>

(Matrix continues on the following page.)

**Matrix** (continued)

<i>Issues</i>	<i>General Indicators</i>	<i>Data sources/ methodologies</i>	<i>Comments</i>	<i>Case Study: Nicaragua</i>
	infrastructure (before and after)		tions; need to develop separate indicators per type of SF project	also possible ex ante from previous LSMS; can compare SF beneficiary with characteristics of national population and with match communities
•	Improvement in access to social and economic infrastructure versus comparator projects	Household survey of SF and comparator project beneficiaries	Need to have either baseline or recall questions; need to develop separate indicators per type of SF project	Can compare SF beneficiary with general characteristics of national population as well as match communities
•	Improvement in quality of infrastructure and services (before and after)	Facilities survey and household survey, some coverage from beneficiary assessment	Need to have either baseline or recall questions; need to develop separate indicators per type of SF project	For education, health, water and sanitation, recall plus historical information from facilities survey and SF ex ante appraisal
•	Improvement in quality of infrastructure and services versus comparator projects	Facilities survey and household survey, some coverage from beneficiary assessment (in SF and comparators)	Need to have either baseline or recall questions; need to develop separate indicators per type of SF project	For education, health, water and sanitation, SF and non-SF facilities through household and facilities surveys

Human capital	<ul style="list-style-type: none"> <li>Improved educational status: school attendance, years completed, dropout and retention rates (before and after and versus comparators)</li> </ul>	Household survey and information from school	Household survey and information from school for SF and non-SF schools and households
	<ul style="list-style-type: none"> <li>Improved health status: for example, incidence of disease, infant mortality, malnutrition, increased breastfeeding (before and after and versus comparators)</li> </ul>	Household survey with health module. Anthropometric measures if malnutrition included	Household survey and information from health center for SF and non-SF centers and households
	<ul style="list-style-type: none"> <li>Improved economic status: increased income, reduced time spent fetching water, lower cost of services, increased employment (before and after and versus comparators)</li> </ul>	Household survey	Household survey for SF-beneficiary and non-beneficiary match communities

*(Matrix continues on the following page.)*

**Matrix (continued)**

<i>Issues</i>	<i>General Indicators</i>	<i>Data sources/ methodologies</i>	<i>Comments</i>	<i>Case Study: Nicaragua</i>
Social capital	<ul style="list-style-type: none"> <li>Increased community capacity to address problems (versus comparators)</li> <li>Increased participation rates in community-initiated changes (versus comparators)</li> </ul>	<p>Household survey, community survey, and/or beneficiary assessment</p> <p>Household survey, community survey, or beneficiary assessment</p>	<p>Not addressed</p> <p>Need to develop indicators</p>	<p>Information in household survey on participation</p>
<b>C. Sustainability of Benefits</b>				
<i>Issues</i>	<i>General Indicators</i>	<i>Data sources/ methodologies</i>	<i>Comments</i>	<i>Case Study: Nicaragua</i>
Sustainability of operations	<ul style="list-style-type: none"> <li>Conditions under which SF projects are operating after SF intervention (absolute sustainability)</li> <li>Conditions under which SF projects are operating after SF intervention versus comparator projects (relative sustainability)</li> </ul>	<p>Facilities survey</p> <p>Facilities survey</p>	<p>Can get some additional information from beneficiary assessment</p> <p>Can get some additional information from beneficiary assessment</p>	<p>For education and health project surveys, have both SF and non-SF</p> <p>For education and health project surveys, have both SF and non-SF</p>

Sustainability of maintenance	<ul style="list-style-type: none"> <li>Maintenance of infrastructure and services over time (absolute)</li> </ul>	Facilities survey	Can get some additional information from beneficiary assessment	For education and health project surveys, have both SF and non-SF
	<ul style="list-style-type: none"> <li>Maintenance of infrastructure and services over time versus comparator projects (relative)</li> </ul>	Facilities survey	Can get some additional information from beneficiary assessment	For education and health project surveys, have both SF and non-SF
Sustainability of impact	<ul style="list-style-type: none"> <li>Quality and quantity of infrastructure and services over time</li> </ul>	Facilities survey and household survey	Can get some additional information from beneficiary assessment	For education and health project surveys, have both SF and non-SF
Sustainability of community effects	<ul style="list-style-type: none"> <li>Tendency of SF communities to submit other proposals (to SF and others) over time</li> <li>Community participation in social and economic infrastructure needs over time</li> </ul>	SF database, community survey, or beneficiary assessment	Would need additional work	Would need additional work
		Community survey, household survey, or beneficiary assessment		Include in <i>next</i> beneficiary assessment; impact evaluation

(Matrix continues on the following page.)

**Matrix** (*continued*)

<b>D. Cost-Efficiency Issues</b>	<i>General Indicators</i>	<i>Data sources/ methodologies</i>	<i>Comments</i>	<i>Case Study: Nicaragua</i>
Cost-efficiency of subprojects	<ul style="list-style-type: none"> <li>• Average cost per new school, health post, water system versus alternative approaches versus comparator projects</li> <li>• Unit costs: cost per square meter of construction, per kilometer of road, and so on, versus comparator projects</li> <li>• Average cost per beneficiary per SF project type versus comparators</li> <li>• Average cost of employment generated versus comparators</li> </ul>	SF database and information from government ministries and municipal governments	Costs change over time and comparator projects must be identical	SF and non-SF data from facilities survey. Non-SF cost estimates may not be reliable
		SF database and information from government ministries and municipal governments		Can calculate SF averages. Will include in cost-efficiency analysis
		SF database and information from government ministries and municipal governments		Can calculate SF averages. Will include in cost-efficiency analysis
		SF database and information from government ministries and municipal governments		Can calculate SF averages. Will include in cost-efficiency analysis

<p>Cost efficiency of delivery mechanism</p>	<ul style="list-style-type: none"> <li>• SF institutional costs (investment and operating) as share of SF projects versus comparator projects</li> </ul>	<p>SF database and information from government ministries and municipal governments</p>	<p>Need to develop standard definitions of institutional costs; specify time period</p>	<p>Can calculate SF averages. Will include in cost-efficiency analysis</p>
	<ul style="list-style-type: none"> <li>• Average completion time versus comparator projects</li> </ul>	<p>SF database and information from government ministries and municipal governments</p>		<p>Can calculate SF averages. Will include in cost-efficiency analysis</p>