

Session 9: Monitoring and Evaluation



Wednesday, June 10,
2009

Electrification scale-up in Africa will require rigorous, yet low-cost and practical monitoring and evaluation to guide the programs, plan and measure impacts, and collect lessons learned for improvements.

Monitoring, evaluation, and impact evaluation are vital in determining whether development initiatives, such as rural electrification effectively reduce poverty. In the past there have been many claimed benefits from rural electrification - including gains in productivity, learning and health. This clinic on the impact of rural electrification investments focuses on development outcomes, and whether the assumed benefits can be quantitatively verified. The session presents monitoring and evaluation tools and components that work and typical conclusions that can be drawn from evidence-based evaluation.

In recent years there has been quite a bit of work on rural electrification monitoring and evaluation by the World Bank and developing countries. This emphasis has partly been the result of the need to create objective indicators to measure the benefits of projects involving electrification. The World Bank has experienced three phases involving monitoring and evaluating of rural electrification. They are:

- Phase 1 or early approach. In the approach that was used before 10 to 15 years ago cost savings were measured by quantifying the value of displaced kerosene, candles or diesel fuel for irrigation and attributing this as a minimum willingness to pay.
- Phase 2 or consumer surplus approach. This approach has been extensively discussed and recently has been approved by the World Bank's Internal Evaluation Group as a way to measure the benefits of rural electrification. This method was adopted after the publication of a report on the evaluation of benefits of rural electrification in the Philippines. It calculated benefits from estimated demand curves developed from large surveys.
- Phase 3 or new approach for directly measuring income gains. While the consumer surplus approach estimates consumer benefits, new methods are being developed to measure the direct benefits of rural electrification on income levels. This approach requires surveys with detailed data on income and analysis technique that deal with the joint influences of income on energy use

and the impact of energy use on income.

The evaluation of rural electrification has come a long way in refining benefit measures and monitoring techniques for rural electrification. However, it should be cautioned that the consumer surplus approach must be based on actual demand as measured by consumer surveys and not just price and quantity estimates as has been done in some World Bank projects. Also there is a need for more work on impact of electricity on income generation. Finally, monitoring and evaluation components should be standard parts of both grid and offgrid rural electrification projects.

How to do monitoring and evaluation: Example from Laos

As in the rest of the developing world, the needs of Africa for access to rural electrification are of great importance. In order to achieve this, it is necessary to put in place monitoring and evaluation tools to improve service delivery, planning and the equitable allocation of resources for electrification based on demonstrable achievements of past performance. Monitoring and evaluation is necessary to help staff improve their ability to effectively monitor and evaluate their projects, thus strengthening the performance of their projects.

The presentation dealt with how to implement a monitoring and evaluation framework by concentrating on the following questions.

- What data do we need?
- How do we collect these data?
- How do we operationalize these data?
- How was monitoring and evaluation done in Lao PDR?

The answer to these questions is that we need fairly large household surveys and many questions on energy use. The data generally should be collected by government agencies or professional survey organizations that have familiarity with implementing household interviews based on random samples. To obtain useful operational data requires asking questions on quantity of energy consumed and the length of time various appliances including lights are use. The case study materials from Laos provide examples from an actual survey on how to ask the questions and analyze the results.

Monitoring and Evaluation: Pre and Post Project Surveys

Since its inception in 1996, the Rural Energy Development Program of the Alternative Energy Promotion Centre in Nepal has successfully implemented 243 micro-hydro (MH) projects in remote rural areas of Nepal till December 2008. In this context, the need to develop a comprehensive monitoring and evaluation framework comprising Key Performance Indicators to assess the impacts of various aspects of the program has been felt by the implementing agency and other stakeholders. The proposed monitoring and evaluation framework is expected to provide the following:

- Support strategy formulation, budgeting and performance reviews.

- Help for the Government of Nepal in their policy development and analysis of effectiveness of policies in microhydro sector.
- Help Alternative Energy Promotion Centre / Rural Energy Development Program manage activities at the sector, program, and project levels.
- Enhance transparency and support accountability relationships within Alternative Energy Promotion Centre. Strong accountability can, in turn, provide the incentives necessary to improve performance.

The presentation discusses how we went about implementing the monitoring and evaluation framework. The key steps involved are the following:

- **Assessing the readiness and existing capacity for monitoring and evaluation:** This aspect includes assessing existing data and processes, adequacy of existing data sources, roles and responsibilities, structure in place for assessing performance, role of AEPC and its counterparts at regional and local levels, and identifying barriers to monitoring and evaluation along with the opportunities for strengthening it.
- **Conceptualizing and designing the monitoring and evaluation framework:** This work includes identifying the necessary information that underpins monitoring and evaluation. The idea is to develop a set of key performance indicators in a logical sequence and establish a baseline against which future improvements will be tracked. It also is necessary to prepare time bound and realistic targets for the medium term and to respond to information needs of internal and external stakeholders.
- **Developing a robust Management Information System:** Such a system creates the ability to present data in a timely and concise manner to the relevant target audiences and to different levels within the implementing agency. It also is necessary to define reporting requirements and formats for standard reports that include the data to be collected, source of data, frequency of data collection, parties responsible for collecting, analyzing, reporting and using the data.

The presentation also gives a description of the household and enterprise survey that has been undertaken to assess electrification benefits for rural households in Nepal. Combining impact assessment with monitoring and evaluation framework is the major feature of this work, as it covers the whole lifecycle of monitoring and evaluation project.

Monitoring and Evaluation in Energising Development (EnDev) and INGENS

The M&E system of the Energising Development Programme comprises (i) a detailed semi-annual monitoring of performance indicators (=number of beneficiaries who got access to modern energy services) as well as costs, subsidies and cost efficiencies allowing a benchmarking between countries, regions, technologies and project approaches (this is crucial for the overall approach of EnDev, as additional funds are assigned annually to the best performers, so that monitoring performance allows for an ongoing competition of ideas, approaches and players under the overall programme umbrella), as well as (ii) thorough impact evaluation to investigate the effect of modern energy usage on the well-being of its beneficiaries.

Among others, the research institute RWI has implemented combined baseline and ex-ante impact assessments in Benin, Ghana, Mozambique, Rwanda and Uganda. As these studies were conducted before the interventions, the idea in the first place was to provide data for rigorous ex-post evaluation. In addition to this, a new methodology to assess the expected impacts of electrification before the intervention was implemented. For this purpose, surveys were conducted not only in the yet non-electrified target region of the respective project (“no access area”), but also in a comparable region that has been electrified some years ago (“access area”). Thereby, the observed behavior of electrified households can be used to simulate the expected behavior of the target households to be electrified in the project. Early results from the above-mentioned surveys are summarized in the presentation.

Presentations:

Overview. Douglas Barnes, Senior World Bank Consultant and Presented by Voravate Tuntivate.

How to do monitoring and evaluation: Example from Laos. Voravate Tuntivate, Senior World Bank Consultant.

Monitoring and Evaluation: Pre and Post Project Surveys. Hussain Samad, Senior Research Analyst, World Bank.

Monitoring and Evaluation in Energising Development and INGENS. Florian Ziegler (EnDev/GTZ) & Jörg Peters (RWI).