

APROSC. Impact Evaluation of the Asian Development Bank Assistance at Farm Level in Nepal. A Case Study on Biogas Plant. Asian Development Bank, Manila, June 1998. 75p, BSP Lib
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Background

The Asian Development Bank, Manila has been providing financial assistance to the Agricultural Development Bank of Nepal (subsequently referred as the Bank or ADB/N) to invest in programmes within the framework and objectives of the country's development plans. So far, five loans have been provided to support the credit operation of the Bank. The credit facilities provided under these loans were mainly for farm level development through investment in irrigation equipment, farm inputs, mechanisation, improved breeds of livestock and biogas plants.

Programme implemented within the first three credit projects are already post evaluated. The fourth one is scheduled to be post evaluated in May 1988. Programme financed by the Bank with the assistance received under the Fifth Agricultural Credit Project of the Asian Development Bank are in early stage of implementation. It is expected that the experience of completed projects, i.e., the Fourth Agricultural Credit Project will provide a good basis for carrying out an impact study of investment made in the past.

The case study approach is considered appropriate to assess impact on farming population at the micro-level. Considering this, the Asian Development Bank proposed to prepare a case study for each type of new technology promoted with its assistance through the Bank. Consequently, the Agricultural Project Services Centre took over the responsibility of preparing a case study for each of the following subjects:

- Tubewell Irrigation
- Tractors
- Power tillers
- Warehouse/cold storage
- Water turbines
- Biogas plant

This case study deals only the biogas technology in particular.

Objectives of the Case Study

The three major objectives of this case study are the followings:

- To provide insight into the extent to which the availability of credit through the Bank has helped the promotion of biogas technology;
- To call attention to issues that are of relevance to improve the effectiveness of the Bank's assistance in the operation of biogas development programme; and
- To identify the factors that has implications for the sustainability of efficient and effective assistance in the promotion of biogas technology in future.

Scope of the Study

The impact on technology transfer at the farm level is the focal point of this case study. Efforts are made to identify factors contributing to or inhibiting the successful adoption, operation and promotion of biogas plants in Nepal. In this process, due attention is given to address the following questions.

- Has the adoption of biogas technology been facilitated by the availability of formal credit?
- Is the technology suitable under local socio-economic and cultural setting?
- What are the risks and uncertainties associated with the technology in relations to risk bearing ability and perception of users?

- Was the technology made available to users with sufficient knowledge and skill along with other necessary inputs?
- Does the plant provide for sufficient cash to repay the borrowed investment capital?
- Have the policies and procedures of related institutions been conducive to the promotion of biogas technology?

Attempts are also made to determine the financial, economic and social impacts of biogas plants and assess whether its use benefits are sustainable. In this connection, performance of investment activity with the use of biogas technology is assessed on actual operational experience. Care is taken to highlight important aspects of credit use at farm level.

Approach

The case study is based on in-depth interview with four selected farmers who used credit from the Bank to install a biogas plant. Two farmers from each of the two selected districts were interviewed for the purpose.

Two selected districts are Morang and Rupandehi. The districts are located in eastern and western plains (Terai) of Nepal. Following are the reason for selecting these two districts.

- Two Regional Offices of the Gobar Gas Tatha Krishi Yantra Bikash Company (GGC) – the only national institution involved in the promotion of biogas technology in Nepal – are located in the districts selected. Importance of information from field level offices of the GGC, i.e. its Regional Offices, and the short time available to complete this study was the two main reasons for selecting Morang in the east and Rupandehi in the west. Conscious efforts are made to see that no bias creeps in into the study due to geographical nearness of the respondent to the GGC's Regional Office.
- Morang and Rupandehi are also the districts in which the Bank has been financing biogas plant installations even before the start of Fourth Credit Project of the Asian Development Bank. In other words, long experience of operating biogas plants was available in these districts.
- Both the selected districts are in plains. But, it is also the plains of Nepal that has higher scope for the expansion of biogas technology as it is favoured by factors like higher annual temperature, average holding of capital and land, and per capita income of farmers. Realising this, seventy-four percent of the total installations proposed by the Fourth Agricultural Project Document (1980) are for plain. Therefore, selecting both the district from plains can be justified on the basis of greater scope it has for the expansion of biogas technology. One successful and one less-successful case are taken from each district for in-depth interview. This was done in consultation with local offices of the GGC and the Bank.

Main Findings

The dome type biogas plants fed by cattle dung are increasingly getting popular among farm families in Nepal. The rate of installation of these plants has increased since the implementation of the Fourth Agricultural Credit Project of the Asian Development Bank. The main reasons for this are the availability of formal credit and active role played by GGC in the dissemination of the technology.

In early eighties, the technology was comparatively new in most part of the country. The uncertainty associated with any new technology and high investment cost made many to feel reluctant in its adoption. But this situation has changed. With the experience of innovative farmers, many are now convinced of the low level of risk and uncertainties associated with the biogas technology. Consequently, many have started to invest their own capital in it. However, use of formal credit is preferred because of high interest rate in private money market.

It is observed that much has to be done in the fields of training and extension activities to promote the technology. The prevent efforts in these areas can grossly be termed as inadequate.

The technology is socially acceptable, technology feasible, financially viable, economically profitable and environmentally preferable as well as sustainable. Also the government policies have been generally conducive for the promotion of biogas technology. However, there is room for the government to provide further impetus to its promotion by changing policies related to tax and subsidies.

The borrowers' behaviour with regard to loan repayment was found to be satisfactory.

The technology is preferred for its multitude of benefits. However, total number of plants in a particular area is still too few in number to have any visible impact on the local environment and forest. In general, the technology has been able to improve the family health of its users.