

Tentscher, W.; Teplitz-Sembitzky, B. and Pandey, B. **Evaluation - Nepal Programme for the Promotion of Biogas Plants Project No. 1996 65 183**. KfW (Kreditanstalt für Wiederaufbau, Central Evaluation Unit for Financial Co-operation Projects (FZ-E). July 2001. 45p. BSP Lib Temp No. 30.

### **Rational for the Study**

The evaluation of the Financial Co-operation (FC) project "Programme for the Promotion of Biogas Plants" was conducted under the leadership of KfW in accordance with the terms of reference established by the BMZ. In the context of the project evaluation, a final evaluation was equally carried out. The project deals with the first phase of the third biogas extension programme (BSP III-1) to promote the use of biogas plants in Nepal. This phase lasted from March 1997 until May 2000. The second phase of the third extension programme started in Mid-2000.

The project was selected for evaluation due to its importance with respect to the objectives of development policy (improvement of the living conditions of farmers' households and reduction of negative environmental impact) and the possibility of implementing this approach also in other countries and regions.

The evaluation was prepared in course of several meetings of representatives from KfW and the BMZ. It is based mainly on the evaluation of the vast project documentation and the talks held in Nepal with parties actively involved in the project. The evaluation mission that took place from March 12 to 24, 2001 comprised representatives of the Nepalese government, the project-executing agency (BSP) and the organisations and target groups participating in the project. The aim of this evaluation was to make the evaluation more transparent and focus on the actual problems.

### **Main Findings**

The project made a major contribution to the sustainable use of biogas and digested sludge in farmers' households and to the development of an efficient biogas infrastructure. This helped to improve the living conditions of the target group and at the same time reduced negative impacts on the environment.

The most important positive ecological impact of the use of biogas is the substitution of equivalent quantities of firewood or fossil fuels (kerosene) and the subsequent improvement of the environment and protection of resource. Protection of the environment and resources is a major side effect of the project. The project has brought an improvement of living conditions of families in rural areas and this has in particular benefited women (work has become easier, reduction of health hazards since no more smoke is produced in kitchens, killing of parasites, etc.). Poor farmers are part of the target group (ca. 35%) but they do not form the majority of households that installed a biogas plant.

The project contributed to improve the qualifications of the staff of BSP and most of people employed in the biogas industry. Rural development and infrastructure projects were strengthened due to the co-operation with local authorities and self-help organisations. Development that promotes participation is an important secondary objective.

The programme sets the pattern for a more widespread use of biogas plants, has a model character for the promotion of renewable energies and serves as a positive example for other countries.

The project was less successful than expected with respect to increasing the use of biogas lamps, which altogether met with a less positive response due to technical deficiencies, relatively bad lighting quality or the introduction of kerosene lamps. In households, which are connected to the power supply system (electric light) biogas lighting does not make sense. Biogas lamps created higher interest only in the more remote hilly regions.

Many farmers using biogas treat and use the sludge inappropriately without fully exploiting its potential fertilising value. This resulted into an additional demand for training and advice on the subject of the treatment and use of digested sludge. Equally required are innovative marketing strategies and support measures, which promote the spread of biogas technology to more remote regions and to sections of the population that are poorer or disadvantaged with regard to infrastructure.

One critical aspect to be mentioned is that so far the project has not been able to establish a structure in the sector, which is stable in the long-term and is commercially viable. The success in increasing the use of biogas technology is due to a considerable extent to massive technical and financial assistance, which was granted in the form of direct and indirect subsidies to the target group. Thus, it is important to concentrate the next steps on improving the commercial viability and, hence, the sustainability of the programme.

Despite the existing weaknesses with regard to the commercial viability and sustainability, the overall assessment of the project is that of high development effectiveness without any qualification.