

Adhikari, P. K. et.al. Biogas Support Programme. **Effect of Biogas Plants on Family Health, Sanitation and Nutrition (A Case Study in Lamjung District)**. February 1996, 40p. BSP Lib Temp No. 24.

### **Objectives**

The main purpose of this study was to provide some empirical evidence on the effects of biogas plant operation on *health, sanitation and nutrition* of the family members of the households having toilets attached biogas plants.

The study especially aimed at assessing the direct and indirect effects (both positive and negative), which were hypothesised to have been realised from the operation of biogas plant in the rural households.

### **Approach and Methodology**

Under the framework of BSP this study was carried out in Ishaneshwor VDC of Lamjung where Self-reliant Society Service Centre (SERSOC), a local NGO is operational in the since 1992. SERSOC had supported the installation of 161 plants in this district. Among the 9 wards of Ishneshwar VDC, 3 wards (ward No. 7, 8, 9) having high concentration of biogas plants (69 out of 164) were selected for the study.

### **Main Findings**

#### *Impact of Biogas on Smoke Related Diseases*

The study revealed that smokeless biogas produced from anaerobic digestion of animal and human waste has greatly benefited the plant owners by contributing to a significant reduction in eye related problems and respiratory diseases. Women now feel better in terms of removal of eye irritation, eye pain, eye sore, headache, coughing etc.

#### *Impact of Biogas on Health and Sanitation*

Direct benefit realised by the plant owners was remarkable reduction in physical stress in terms of more leisure that made them possible from time saved in firewood collection, cooking and cleaning utensil.

The direct, effects of biogas plant on health and sanitation are found to be more visible than indirect ones. Although reduction of intestinal and diarrhea diseases due to biogas-induced toilets construction movement was not pronounced well, its impact on public health is sure to be tremendous in future. However, its effect on cleanliness and sanitation is quite visible in the study area. The change in sanitation and cleanliness and behaviour of the local people including young members has been a matter of great satisfaction brought about by biogas and biogas induced wave of toilet construction.

The biogas owners do not seem to have experienced any noticeable change on their nutritional and income status due to biogas plant operation. Moreover, any minor change whatsoever in this respect is not directly attributed to the biogas plant operation.

The present study attempted to test the presence and number of helminthic parasites in the digested slurry. Since no ova were detected in the digested slurry, it is suggested that stool of the plant owners be examined and the amount of slurry be increased in order to correlate the findings of human stool and digested slurry. Laboratory tests of digested slurry along with biogas and non-biogas related activities needs to be carried out at the same.

#### *Adverse Effect of Biogas*

Despite several positive effects brought about by the biogas, some adverse effects were also reported such as increased prevalence of mosquitoes, loss of warmth during winter causing diseases related to cold etc. Since the major set back caused by the biogas plant seems to be increased prevalence of mosquitoes, an immediate step should be taken to find out the real causes of mosquito breeding and then to find out solution to overcome this problem.