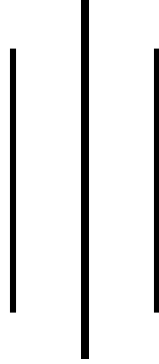


**Socio-economic Impact of Bio-Gas Users: A Case Study of
Patleket VDC of Kavre District**



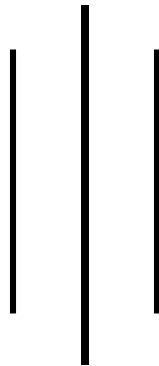
Project Report

Submitted to the Central Department of Rural Development

Tribhuvan University, Kirtipur, Kathmandu, Nepal

In Partial Fulfillment of the Requirement for the Degree of

Master of Arts in Rural Development



By

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RECOMMENDATION LETTER

It is certified that Bimala Maharjan has completed her project report entitled **"Socio-economic Impact of Bio-Gas Users: A Case Study of Patlekhet VDC of Kavre District"** under my guidance and supervision. I recommend this project report for final approval and acceptance.

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APPROVAL LETTER

This project report presented by Bimala Maharjan entitled "**Socio-economic Impact of Bio-Gas Users: A Case Study of Patleket VDC of Kavre District**" has been accepted in the partial fulfillment of the requirement for the degree of Master of Arts (M.A.) in Rural Development.

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EXECUTIVE SUMMARY

Biogas is popular in the study area - Patlekhet VDC of Kavre district as a substitute to firewood and due to ease and comfort for cooking purpose. It was found that all the biogas plants were of Dome type of which 92% were of 6 m³ size. Though no. of goats was large in number, only dung of cow and buffalo was found to be in use for biogas purpose. All biogas plants were constructed by self-investment of the users. Subsidy was very encouraging factor for installation of biogas plants in the study area. Majority of biogas plants (84%) were connected to toilet and plants were all working satisfactorily. The cost of installation of biogas plants was in the range of 10,000 to 12,000 (excluding subsidy).

The study revealed that women were especially benefited after the adoption of biogas technology. There was considerable reduction in workloads of the family member, especially for women. The saving of time was daily 2.5 hrs for firewood collection, 1 hr for cooking activities and 1 hr for cleaning utensils. Saving of firewood was in the range of 5 Bhari to 20 Bhari, the monetary value of being from NRs. 750 to NRs. 3000. Byproduct of biogas plants i.e. slurry was found in use as an organic fertilizer. Increase in agricultural productivity was experienced by biogas owners. 80% of the respondents answered for increase in productivity. Improvement of indoor air pollution and smokeless environment in the kitchen were other appreciable positive impacts of biogas. From the study, it was found the decrease in diseases and infections such as eye burning, headache, cough, respiratory diseases due to use of clean energy obtained from biogas plants. Decrease in fly prevalence because of clean environment at the surrounding. However, increase of breeding of Mosquito and decrease in production of biogas in winter season due to low temperature were reported.

The promising and good end use application of biogas plants was that most of the users had vegetable farming and production of milk for income generation. They have been using nearby cities like Dhulikhel and Banepa as markets to sell their production. Therefore, biogas technology has improved the quality of life of people of Patlekhet VDC of Kavre district.

However, to express the impact of income generating activities due to biogas plants in financial terms, detail study about selling of vegetables and milk in nearby

markets should be carried out. Similarly, detail study about the impact of biogas on various diseases and use of human excreta for biogas generation should be carried out for more quantitative analysis. Though biogas plants have positive impacts on environment, the cause for increase of mosquito population due to introduction of biogas should be investigated with necessary solution for the control of mosquito.

As the biogas plants are being used by rural people. There should be a special policy of the government to encourage and include poor of the poor people of rural areas to use the clean, smokeless renewable energy like biogas. Moreover, subsidy should be continued and importance and benefits of the biogas plant should be broadcasted regularly by media for promotion of biogas technology.

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ABBREVIATIONS

VDC	-	Village Development Committee
BSP	-	Bio-gas Support Programme
NPC	-	National Planning Commission
RETRUD	-	Rural Energy Technology for Rural Development
CES	-	Centre for Energy Studies
KVIC	-	Khadi and Village Industries Commission
ADB/N	-	Agriculture Development Bank
UMN	-	United Mission to Nepal
DCS	-	Development and Consulting Services
GGC	-	Gobar Gas Company
AEPC	-	Alternative Energy Promotion Centre
MOST	-	Ministry of Science and Technology
CO ₂	-	Carbon dioxide Gas
LPG	-	Liquefied Petroleum Gas
FYM	-	Farm Yard Manure
FY	-	Fiscal Year
FAO	-	Food and Agriculture Organization
RET	-	Renewable Energy Technology