# SOCIO-ECONOMIC IMPACT OF MICRO-HYDRO POWER PROJECT

## (A Case Study of Modi Khola Hydropower Project on Deupur VDC, Prabat District)

**A Thesis**

**Submitted to the Department of Economics**

**Faculty of Humanities and Social Sciences of Tribhuvan University**

**in Partial Fulfilment of the Requirements for the Degree of**

**MASTER OF ARTS**

**in**

**ECONOMICS**

**Submitted by**

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Department of Economics

## LETTER OF RECOMMENDATION

This thesis entitled **"Socio-economic Impact of Micro-hydro Power Project (A Case Study of Modikhola Hydropower Project on Deuper VDC, Prabat District)"** was prepared by Binod Acharya under my supervision. I hereby recommend this thesis for approval by the thesis committee.

Deo Narayan Sutihar
Associate Prof.
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Date: 1st April, 2014

Department of Economics

## APPROVAL LETTER

We certify that this thesis entitled **"Socio-economic Impact of Micro-hydro Power Project (A Case Study of Modikhola Hydropower Project on Deuper VDC, Prabat District)" s**ubmitted by Binod Acharya to the Department of Economics, Prithvi Natrayan Campus Pokhara, Faculty of Humanities and Social Sciences, Tribhuvan University, for partial fulfillment of the requirements for the degree of MASTER OF ARTS in ECOMOMICS has been found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the Degree.

**Thesis Evaluation Committee**

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| | | |
|---|---|---|
| ADBN | : | Asian Development Bank Nepal |
| AEPC | : | Alternative Energy Promotion Centre |
| CBS | : | Central Bureau of Statistics |
| $CO_2$ | : | Carbon dioxide |
| EYE | : | Eye Nose Throat |
| FY | : | Fiscal Year |
| KW | : | Kilowatt |
| MHP | : | Micro Hydro-Power |
| MW | : | Megawatt |
| MWE | : | Megawatt Energy |
| NGO | : | Non-Governmental Organization |
| NEA | : | Nepal Electricity Authority |
| PRA | : | Participatory Rural Appraisal |
| UNDP | : | United Nations Development Program |
| VDC | : | Village Development Committee |
| WTO | : | World Trade Organization |

# ABSTRACT

The role of hydropower in economic development in the context of least developed country like Nepal can never be underestimated. The electricity generated from the hydropower plant is not only essential for industrial growth but is equally inevitable for human being. The main objective of the study is to evaluate the impact of the micro hydropower projects (MHPs) in rural development on socio-economic aspects through income and employment generation, health and sanitation, education and information technology and suggest solution for sustainable development of MHPs.

The present study has attempted to bring these aspects of the small hydropower projects into the limelight through the study of socio-economic impact of Modhikhola Hydropower Project in the overall sector of the study area. The construction of project was started from the year 1996 with the eco-financing of His Majesty's Government of Nepal and Nepal Electricity Authority. The Government of Republic of Korea has provided a loan assistance to cover part of the technical support, electromechanical works and 132 kV transmission line constructions.

The study has employed both primary and secondary sources for data collection. Under the primary source, the study has been based on questionnaire, interview and direct observation of the project site and affected areas. Likewise, different reports and official publications regarding hydropower plants have been taken into consideration for the statistical data.

The study found mixed socio-economic impact of the project on the project affected areas. Out of 48.08% population are still dependent on agriculture for livelihood. The study further finds out that the population has not completely substituting electricity for firewood. After the installation of MHP 27 small industries were installed in study where around 55 villagers have partially/fully

involved in job. In the study area 76.92% student's performance at school is improved after MHP installation because children have been studying at the night time using electricity. People are suffering from asthma, bronchitis, eye infection and heart diseases due to indoor air pollution. Hydroelectricity has a prominent role in reduce indoor air pollution by decreasing the use of firewood and kerosene. Electricity from a micro hydro plant makes it possible to use overhead projectors, computers, TV, radio, refrigerator, washing machine, chargeable battery, mobile and internet. This increases the living standard of the people in the study area.

To sum up, installation of small hydropower projects like Modhikhola hydropower is significant from several angles like, to fulfill national demand for electricity, protect environment, uplift living standard of rural people.