

Micro-Enterprises, Development for Poverty Alleviation

Volume I

Micro-Enterprise Development Programme (MEDEP)/UNDP
Ministry of Industry (MOI)
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About the Book

Introduction

Micro-Enterprise refers to any economic unit engaged in the production and distribution of goods and services at household level. It is primarily of self-employed nature, employing him/her in the enterprise and sometimes some family members. The enterprise runs on little amount of capital investment at a fixed market centre or mobile business locations. This sector is identified with features like reliance on indigenous resources, family ownership of enterprises, small scale of operation, labour-intensive, adapted technology, and minimum skill. Micro-enterprise, therefore, is particularly suitable for poor communities.

Micro economic enterprises play a vital role in poverty reduction in both rural and urban areas, and reinforce urban-rural linkages for economic and social development in Nepal. The linkages are essential not only for utilization of local resources but also in acting as agents for the flow of goods and services between urban and rural areas. Their roles are important since they possess the features like self employment generation, employment to poor and women, use of local resources, meeting basic needs of the poor, traditional enterprise/skill and craftsmanship, labour intensive, self satisfaction on the job, entrepreneurship and innovative (skill learned through apprenticeship method), and fair income distribution among the poor.

However, development and promotion of Micro-Enterprises in Nepal has been hindered due to some major factors: First, lack of easy access to micro-credit is the most crucial constraint and, therefore, Micro-Enterprises are unable to utilize the economic opportunities available in the local area in sustainable and successful manner. Promotion of micro informal enterprises is required in their overall productivity enhancement considering resource allocation, i.e. credit facility. Secondly, Micro-Enterprises lack knowledge and skills to produce the items as per market demand. Therefore, promotion-based training is next important component, which should be poor community -friendly and it should be provided to potential and interested individuals to upgrade their knowledge and management of enterprising skill. Excellent entrepreneurs will be produced only if trainings are provided at different stages and levels. Monitoring is essential for validating and use of trainings. Thirdly, labour and capital productivity and rate of surplus are other measures to promote Micro-Enterprises. These include the considerations of skill up-gradation, management, and technological improvement. Lastly, other constraints of micro enterprising development include (i) limited backward and forward linkages, (ii) lack of market chains and price chains of the products, and (iii) lack of market places for selling within the cities. These necessitate due considerations.

The government agencies should play a crucial role to promote safeguard and manage the micro economic activities. If managed properly, it will be one of the crucial income sources for the local government units.

Micro-Enterprise Development Programme (MEDEP) is thus established to address all the issues, problems and measures related to micro-enterprises. As a part of dissemination, skill development, knowledge sharing, operational research development, and constructive recommendations for further development of the Programme, MEDEP since its inception in 1998 has initiated to assist students from universities and campuses with scholarships to complete their research theses. This volume intends to draw papers out of the theses and research reports duly submitted to MEDEP.

Methods

Altogether 23 internship reports, theses and research reports this volume embraces. These papers are prepared based on the standard formats that include components like (i) abstract, (ii) introduction (rationale and problems statement), (iii) objectives, (iv) review of literature, (v) materials and methods, (vi) results and discussions, and (vii) conclusion and recommendations.

The theses and research reports integrate different academic levels. They include, for instance, 12 Master's level, 2 Post-Graduate Diploma, 3 Bachelor level, 5 Internships, and 1 in project report. They cover different fields of studies like regional development and management, rural development, sociology and anthropology, gender and development, women studies, development studies, forestry, business administration, and population. Researchers represent different universities and development agencies like Tribhuvan University and its affiliated campuses, Kathmandu University, Pokhara University, Purbanchal University, and Manchester College, USA and MEDEP. They deal with the Micro-Enterprises of different fields of studies, comprising NTFPs, women empowerment, impacts, local resources based-products (beekeeping, Dhaka, ginger, and off-season vegetables), water resource, market outlets, and social inclusion. These research works have been completed from 1991 to 2007. Fifteen researchers are female and eight males. There are 17 full-fledged papers containing all components as stated above and remaining six are short-note papers that do not contain literature review and references.

Acknowledgements

This book contains theses and research reports contributed by the students of respective universities, colleges and other academic institutions. MEDEP owns all these theses and research reports. Effort in this book has been made to produce research papers out of those theses and research reports. All the papers contain the data gathered and generated from the field surveys conducted by the authors across different parts of Nepal. In broader term, the papers deal with concepts, issues, contemporary theories and models, problems, prospects and policy measures of micro-enterprises. These serve as complements and contribute to the development of micro-enterprises. This book will be useful to development practitioners, policy designers, students and researchers interested particularly in the roles of micro-enterprises in improving livelihoods of the poor people and local economic development.

MEDEP management would like to express sincere gratitude to all the students, their supervisors and head of the Universities, colleges and other academic institutions for their interest in MEDEP particularly in Poverty Alleviation through Micro-Enterprise Development. MEDEP management also expresses its heartfelt gratitude to Dr. (Prof.) Pushkar Pradhan, Head, Central Department of Geography, Tribhuvan University for his support in technical editing of this compilation and including this publication as one of the reference books for the students studying Master Degree in Geography specialising in Micro-Enterprises and Livelihoods in Urban Planning and Management. Finally, all the entrepreneurs who provided the first hand information to the students and professionals to make their research agenda successful also deserve high appreciation.

MEDEP Management

FOREWORD

To address the dire need of a proven tool that could fight poverty in the county by sustainably promoting entrepreneurship culture, particularly in the population living below the poverty line, Micro-enterprise Development programme (MEDEP) was launched as piloting phase in 1998.

Since then, MEDEP's interventions in the activities of the target poor people, imparting them need based training, skills and knowledge, access to micro-finance, access to appropriate technology, shoring up startup support, establishing resource and market linkage and research work support for scientific investigation and evaluation of the process, impact, and lesson learnt have been continuously refurbishing MEDEP and its tools, intervention process and methodologies rationalized in every phase, suitable to the need and the demand.

Poverty reduction and achievement of Millennium Goal is not simply the tasks set forth by the world governments and global communities, it is also the challenge facing the local, regional, the central governments in the world map as well.

The United Nations, World Community and the donor agencies have been supporting the least developed countries in their fights against the poverty. Many such projects were funded and implemented in Nepal as well. Tremendous numbers of immediate and long term researches, data collection and compilation of the important and relevant information have already been conducted while implementing such different development programmes. However, the researches and data collection is lost along with termination of the programmes, hampering the free share and better utilization of the valued information when needed for policy formulation, academic studies, specialization and proper knowledge based management.

Learning lessons of the many of Multi-donor supported projects in Nepal, MEDEP came up with a solution and initiated institutionalization of the knowledge management after the MEDEP Project Board decided that huge data and information generated by the project should be converted into knowledge management through academic research and the cost effective way of doing so is by involving students of different Universities, Colleges and Institution in Nepal and abroad to conduct their internships, theses and dissertation. This decision opened the door for students studying in academic institutions and started conducting their researches in the MEDEP related fields through institutional linkages between MEDEP and academic institutions. By now since 2006 more than 40 students have benefited with this knowledge management mechanism and this is the first effort of MEDEP to compile the internship reports,

theses and dissertation based extracted from articles and publish them in Volume I which will follow publication of Volume II.

I am confident; MEDEP's initiation to bring about positive changes in the lives of hardcore poor can have tremendous support and invaluable inputs from many stakeholders, sectors, and academia. The collection of research papers prepared by the promising university students will certainly contribute much to enhance the knowledge of the resources and demand of the people living below the poverty line in rock hard geographic, socio-economic, and political situation in Nepal.

The conclusions deduced by some of the theses and study reports presented in this book are anticipated to be useful to all those who have a burning desire to understand the prospects and challenges Nepal has been facing for its poverty alleviation and economic development. Fortitude with natural and human resources, Nepal is still known as one of the poorest countries in global map. Poverty begets adversities; attributing to economic, social, and political anomalies, the poor countries are facing. Consorted efforts to shatter the vicious circle of poverty for achieving prosperity through micro-enterprise development may be the panacea the country is in need for its holistic development. This book is just the beginning.

Dhundi Raj Pokharel
Joint Secretary, Ministry of Industry
And National Programme Director, MEDEP

24 December 2010

Table of Contents

About the Book	iii
Acknowledgements	v
Foreword	viii
<hr/>	
Title	Page
<hr/>	
CHAPTER I: INTRODUCTION TO MICRO-ENTERPRISE DEVELOPMENT IN NEPAL	
Introduction to Micro-Enterprise Development Model and its Achievements in Nepal <i>Lakshman Pun</i>	1
CHAPTER II: FACTORS AND ROLES	
Micro-Enterprises and Household Income in Nepal: A Case Study of Parbat District <i>Ajay Thapa</i>	25
Assessing Forest Based Micro and Small Enterprises and their Contribution to Rural Development in Kabhrepalanchok District, Nepal <i>Dil Bahadur Purja Pun</i>	36
Factors Influencing Entrepreneurship Ability: A Case Study of Parbat District <i>Gyanu Maya Pun</i>	47
Role of Micro Finance in Developing Micro-Entrepreneurship: A Study of Ceramic Enterprise in Gadhwara VDC, Dang District <i>Rumina Khanal</i>	60
CHAPTER III: IMPACTS	
Study on the Off-Season Vegetables Farming and its Impact on Socio-Economic Development: A Case Study of Rasuwa District <i>Bimal Prajapati</i>	69
Impact of Micro-Enterprises on Poverty Alleviation in Nawalparasi District, Nepal <i>Chakra Bandhu Pandey</i>	79
Impact of NTFP-Based Micro-Enterprise on Poverty Alleviation of Janajati Community: A Case Study of MEDEP in Nawalparasi District <i>Sanju Koirala</i>	91
<i>Impact of Micro-Enterprises on Socio-Economic Contion of the Entrepreneurs: A Case Study of Udayapur District</i> <i>Dinesh Kumar Lama</i>	101
CHAPTER IV: LIVELIHOODS AND TECHNOLOGY	
Micro-Enterprise - Way to Enhance Livelihoods of Community through Beekeeping: A Study of Dang District <i>Rashmi Pandey</i>	111
Change in the Livelihoods of Rautes through Micro-Enterprise Development Initiatives <i>Sangini Rana</i>	121

Study on Improved Water Mill in Nuwakot District, Nepal <i>NPSO/MEDEP</i>	130
CHAPTER V: EMPOWERMENT AND INCLUSION	
Economic Empowerment of Women: An Impact Study of Micro-Enterprises in Nuwakot District <i>Babita Adhikari</i>	138
Women Empowerment through MEDEP: A Case Study of Nuwakot District <i>Durga Prasad Dhakal</i>	148
Impact of Micro-Enterprise Development Program on Women: A Case Study of Sunsari District <i>Sabita Sitoula</i>	155
Social Inclusion of Dalits through Micro-Enterprise: A Case Study MEDEP in Nawalparasi District <i>Sarika Gurung</i>	164
CHAPTER VI: MARKETING AND FINANCE	
Study of the Existing Marketing Outlets of Micro-Entrepreneurs Development Programme and Enhancing their Effectiveness <i>Madhu Thapa and Vikash Shrestha</i>	173
Products Marketing by Entrepreneurs: A Case Study of MEDEP in Dhanusha District <i>Bimala Subedi</i>	183
Financial Analysis of <i>Allo</i> Based Micro-Enterprise and Its Impact on the Livelihood of Rural Community in Parbat District <i>Punam Thapa</i>	193
CHAPTER VII: SHORT ARTICLES - Prospects of Local High Value Products	
A Market Study of Ginger in Deurali VDC, Nawalparasi <i>Anu Joshi and Neeta Shrestha</i>	205
Market Study of <i>Allo</i> (Nettle) and Hemp in Nepal <i>Deewa Shrestha</i>	211
A Market Study of Honey in Nepal <i>Heidi Arnaudon</i>	213
Market Study of Ginger at International Market <i>Heidi Arnaudon</i>	216
Strengthening Dhaka Enterprises in Tehrathum District <i>Pooja Siwakoti</i>	218
Present Status of Chyuri Trees: Its Availability, Use and Possible Intervention for Economic Development in Dadeldhura <i>Shyam Adhikari, Chet Raj Bhatta and Lakshman Pun</i>	223

Study on Improved Water Mill in Nuwakot District, Nepal

Micro-Enterprise Development Programme (MEDEP)¹

This study was carried out with an objective of analyzing the contribution of improved water mills (IWM) to income generation, drudgery reduction and utilizing the saved time by IWM entrepreneurs and villagers. A simple random sampling method was used to select a total of 28 IWM entrepreneurs and 84 IWM users (villagers) promoted by MEDEP in Nuwakot, a hill district located in the north of Kathmandu Valley. Those selected entrepreneurs comprised male and female and all major ethnicities and castes locally available.

MEDEP made an effort to support the traditional water mill owners by providing training on skills, technology and enterprise development, as well as facilitating them to access to institutional credit. Impacts on improving the livelihoods of IWM entrepreneurs found in the form of increasing capacity of expenses being made on the household stuffs, education, medicine, maintenance and repairing of houses, etc. However, the entrepreneurs had to adopt several livelihood occupations, as the water mill alone could not provide full employment and income throughout the year. On the other hand, the customers also had got time saved and reduced drudgery being required for milling in the traditional water mills previously. Most of them had used the saved time in productive sector such as growing vegetables, tailoring, health and sanitation, etc. While some women had got negative impressions of the time saved, as they had to perform additional works during that time.

However, one major challenge with the entrepreneurs was how to sustain IWM enterprise in a more profitable way. Based on the consultation with stakeholders and target groups, it was found that the water mills still needed further improvements in skills and techniques and continuous interventions from the concerned agencies to run their enterprises sustainably.

1. Introduction

Agro-processing has become one of the important activities for the farm communities in rural Nepal. Pani Ghatta, a traditional water mill that uses water wheels to convert kinetic energy of running water into mechanical power for grinding, husking, etc of grains², has a long history in Nepal. In the hills, these traditional water mills, usually

¹ MEDEP is a project implemented by Government of Nepal, Ministry of Industry with the technical and financial supports of UNDP and other donors since 1998.

² Other forms of manually operated, painstaking devices with very low efficiency are *Dhiki* and *Janto*, which are the main agro-processing devices widely used by majority of the people in rural areas.

located at the bank of streams, have been a part of villagers' life and are being used as an important source of energy. The rural communities often require food-processing services, in the form of cereal grinding, paddy hulling, oil extraction, etc. Mere availability of these services determines the quality of rural lives. Increase in number of such mills with improved services further reduces the waiting for longer time and the burden of carrying loads over a long distance, a task often performed mostly by women. This in turn stimulates and diversifies local agricultural production.

It is estimated that over 25,000 traditional ghattas are in operation throughout the country. However, the efficiency of these ghattas in the form of milling services has not been improved due to its low power. The ghattas with less than 1 kW output are mostly prevalent throughout rural Nepal, which have not been able to meet the increasing processing demand and other energy requirements of the rural communities (CRT 1997).

On the other hand, diesel mills are swiftly penetrating in high agro-processing demand areas replacing the traditional ones, despite having its negative consequences on local environment. Further, these diesel mills have not only disturbed the self-reliant set up of the villages but have also increased the dependency on imported machinery and diesel. Furthermore, the villagers will suffer more for processing their grains in time of no diesel available, as the traditional ghattas have already been replaced.

Improved Water Mill (IWM) is basically an improved version of traditional water mill with increased power output. Operational output and efficiency have increased at varying range depending on the power output of 2-5 kW, which in turn depends upon the flow and head availability. IWM can be used for a longer period even in the dry season - and through their increased energy output - the quality of the milling service offered to the local community can be improved. However, since its threshold supply of grains has enlarged for sustainable running, the commuting distance of the villagers has also increased.

Available studies reveal that the introduction of IWM has induced positive changes in the socio-economic conditions of both rural communities and local mill-owners. For the communities, benefits include time saving on grinding, reduction of workloads of women, reduce frequency of visits for the mills, employment generation, and market development. Thus IWM has undoubtedly become one of the most efficient options for remote rural areas to assist the communities in improving their livelihood and the time saved can be used in productive works (CRT 2006).

2. Rationale of the Study

Available studies reveal that, after the enhancement of the milling capacity of the water mills, the production efficiency has been increased and the income of the enterprises has also increased (Munankarmi and Neupane 2006). In Nuwakot district, there were 1,250 Ghattas, out of which, 438 were improved water. With the technical

support of CRT Nepal, 35 of those improved water mills were financially and technically supported by MEDEP. The entrepreneurs would have got benefits out of improved water mills, and as expected the impact of IWMs would have reduced drudgery and livelihoods of the entrepreneurs.

Therefore, this study has been carried out to see the changes or improvements in the livelihoods of both water mill entrepreneurs and customers using those IWMs. This finding would help MEDEP to planning and implementation of its similar programme in other districts in future.

3. Objectives

The intents of this study are three-folds: to explore the contribution of income generation to IWM entrepreneurs, to analyze the contribution of IWM to reduce drudgery of IWM women’s life and to find out whether the customers have saved time in generating additional income.

4. Methodology

The methods and sampling design and survey tools and checklists for the study were prepared in consultation with MEDEP personnel. A total of 28 IWM entrepreneurs and 84 water mill customers were selected by using random sampling. They represented the rural market places, viz. 1 from Aapraha, 5 from Chaugada, 9 from Dhikure, 7 from Satdobato and 6 from Tupche in Nuwakot district. Questionnaires, which were pre-tested and verified in each installed IWM of the market areas, administered to each of the sample entrepreneurs and customers to acquire data. In addition, Focus Group Discussions (FGD) and Key Informants Survey were also used by means of using checklists. Observation was also made to see the activities of the entrepreneurs. Secondary data were gathered from the study reports, published and unpublished documents as well as electronic materials by visiting websites. The data was also obtained from MEDEP MI systems.

Analysis of data has been based on qualitative and descriptive approaches and some diagrams and charts have been used in contextual manner.

5. Findings and Discussions

Social and Demographic Status

Of 28 IWMs, 25 were men and 3 were women. This was not unnatural due to nature of work and physical energy required to operate IWMs. In future, women will be increased in this work by

Table 1: Distribution of sample customers

Caste/ethnicity	Ordinary	Promoted	Total
Bahun-Chhetri	26	5	31
Dalit	3	3	6
Janajati	40	7	47
Total	69	15	84

Source: Field Survev. 2007

raising awareness about their active involvement. The number of entrepreneurs with age of over 50 years was largest, i.e. 13, followed by 11 from the age group of 40-50 years. The number of entrepreneurs from the age group of 30-40 years was the lowest, 4. It appears that this enterprising activity has been the least preferred by the youth due to its uninteresting services to the clients. The largest number (20) represented from Janajatis dominated by Tamang and Rai, the number of Dalits were 2 and the rest 6 from others. Sixty-one percent of the entrepreneurs were illiterate and those literate had primary education level. All the three women were illiterate.

Ethnicity of Customers

The total customers of IWM, 84 have been divided into two types, viz. ordinary and promoted by MEDEP. In both cases, the maximum number of the customers comprised Janajatis and minimum number was Dalit (Table 1). Of 84 customers, 15 were MEDEP promoted and the rest 69 as ordinary. Women customers were 35 and males were 49.

Enterprising Development

MEDEP provided skill training to the improved water mill entrepreneurs. Twenty-two entrepreneurs got skill training in which 5 did not get opportunity to attend the training. All 3 women were deliberately being made absent in the training; instead their husbands attended the training. The reason was that, since the training was how to operate IWM, which was highly technical and strenuous job only for men.

IWMs run according to the flow and distance of the stream head. Nineteen out of 28 IWMs were found running throughout the year, while 6 only in rainy season and 3 in winter season. Thirteen IWMs have been running since 8 years back and 12 were operated just 4 years ago. Two were very new, operated 2 years ago and one was running since 6 years back.

IWMs have been offering services of milling grains like maize, wheat, millet, buckwheat, turmeric, and rice to the customers of the surrounding areas since their operation. The mill is a type of retail service. It was found that, 32 percent of the customers visited the mills with their grains weighing below 25 kg, followed by 17 percent with grains between 25-50 kg. The frequency of customers decreased as the quantity increased; for instance there was about 3 percent customers with grains over 100 kg. The study indicated that more women (55%) visited IWM for milling service than men (45%). Despite improved in efficiency of the mills, the burden of loads of women has not reduced. Question may be raised whether women were enjoying visiting the mills or forced to visit.

The ownership of land where IWM has been installed includes private and group. It was

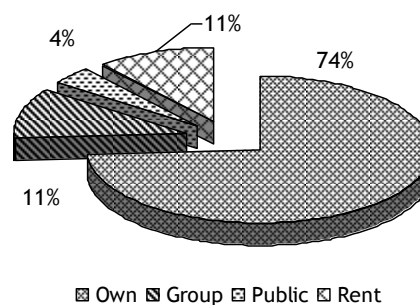


Fig 1: Water mills' land ownership

found that 74 percent of IWMs were installed on their own land whilst 11 percent on the rented land. Rent was being paid in the form of cash or kind (grains), which appeared to be encouraging, as the entrepreneurs have been running their water mills on the land rent. Two other types of land were group and public (Fig. 1).

Income status

The livelihood of IWM entrepreneurs was not completely dependent on milling service. Because of subsistence economy, family members in rural Nepal have to adopt multiple occupations strategy for sustenance of family living. In the study area, the IWM entrepreneurs had derived income from five different sources like agriculture, vegetables and fruits vendors, daily wages, livestock and others. Thirty-two percent of the entrepreneurs were dependent on agriculture; next to it was wage labour (24%). Livestock rearing was also important that provided income to 22 percent entrepreneurs, followed by others and vegetables vendor.

Improved in Livelihood

Thuli Maya K.C, a 42 years old married woman of Bidur -6, Tuphe, has a family of 7 including her husband, 3 daughters and 2 sons. Before MEDEP intervention, she had to depend on her husband earnings derived from fishing and wage labour. The income was not enough to sustain livelihood. Thuli Maya became entrepreneur by establishing IWM with the support of MEDEP. After it, she began earning over Rs 6,000 monthly from IWM alone. Income from fishing has been continued. With these income sources, the family has been able to build cemented house and accumulated assets like land, television, cycle, etc. They managed to marry their two daughters. They were being able to send their children to the school they liked and spent for basic household needs, including health. Thuli Maya together with her husband was planning to expand the enterprise by buying one more pair of water mill.

The income of IWM entrepreneurs ranged from below Rs 1,000 to over 8,000 per year. Seventeen entrepreneurs (61%) earned income between Rs 3,000-6,000, while only 4 (14%) earned over Rs 6,000 per year. There were 7 (25%) entrepreneurs earning below Rs 3,000. The income pattern shows that the milling service supported the family only partially and therefore they have to adopt other livelihood options.

However, the income from IWM alone is not enough to support the family and does not provide regular job throughout the year. Seventeen IWM entrepreneurs of the study region had adopted other income earning activities, whereas for 9 entrepreneurs the income from IWM was enough for their livelihood³.

Agriculture, wage labour, fishing, trading, and craft and metal works were additional income generating activities. Of these, agriculture engaged 10 IWM entrepreneurs, three were involved as wage labour, and one each involved in other activities. The income from these activities ranged from Rs1,000 to 4,000 per month. Six earned below Rs 1,000, two earned Rs 3,000-4,000 and the rest fell into Rs 1,000-3,000 per month.

³ Two IWM entrepreneurs did not response to this query.

Eleven entrepreneurs were being able to save out of their income from IWM enterprises, while six did not respond. The saving per month ranged from Rs 1,500 to 3,500. There were four entrepreneurs having saving of below Rs 2,000, where as three got saving of Rs over 3,000 per month.

(i) Loan Payment Pattern

Eighteen IWM entrepreneurs had taken loan for installation of their enterprises and 10 entrepreneurs had managed on their own source. Seventeen of those loan receivers had paid back their loan and one had not paid back. The reason for not paying back was not due to inability but to expand the enterprising activity.

Impacts of IWM

Impacts of IWM enterprising activities appeared to be seen on employment generation, livelihood improvement, drudgery reduction and others. All 28 water mill entrepreneurs were self employed together with some of their family members, at least on part time and season basis. Three of them also provided job to others. Secondly, the livelihood of the entrepreneurs' families has been improved, which reflected from the expenses being made on foods, clothes, education, health, maintenance and repairing of houses and others. Major portion (40%) of their income was being spent on foods. This was followed by the expenses on education (15%), maintenance and repair (12%), health (10%), clothes (9%), and others (15%). On average, the total annual expenditure of each IWM entrepreneur was Rs 57,518.

(i) Impacts on the Customers

IWMs were able to reduce drudgery of the customers. Of the total 84 customers, 69 got reduced their drudgery for fetching the service of water mills, while however 10 got increased of drudgery and for seven customers, there was no change. Increase in drudgery meant the time saved from IWM had to be used by them in additional works back home. The main advantage from IWM was time saving, which the villagers (customers) used in productive activities like intensification of agricultural crop production, vegetables, livestock, family care, tailoring, and others. Vegetables production was the most activity performed by them during the saved time. Fifteen customers who were promoted by MEDEP involved in enterprising activities like vegetable growing, tailoring, candy making, soap making and others. Of these, the vegetable growing was the most demanded by 8 entrepreneurs. One conspicuous effect of saved time on productive sector was the increase in the production of vegetables and other crops. All eight MEDEP promoted customers (entrepreneurs) engaged in the vegetable production got increase in the production from 7 to 15 percent.

Issues and Challenges

Improvement in traditional skills and methods meant to ease of feeling to the operators and users, as well as to increase their livelihoods. Several issues and challenges are put forwarded:

- IWM has saved time in milling of the grains. Theoretically, the customers supposed to use it in productive activities. Measurement of time saving of both entrepreneurs and customers due to using of IWM has not yet made and its importance has not been imparted into the users.
- Rural electrification through micro hydropower is increasing. It has been a challenge to the IWM entrepreneurs to compete with those operated by hydroelectricity power or diesel mills. IWMs require to be upgraded to generate electricity such as peltic.
- Continuous supply of running water to IWM has been a crucial issue. As most of the IWMs have used irrigation canals for running their mills, its water also used by farmers for paddy plantation time. There often happened conflict in using water between water mill operators and farmers. If the capacity of irrigation canals were increased, this problem would have been solved to some extent.
- Maintenance of IWMs was another crucial issue. The entrepreneurs could manage somehow the general maintenance works locally, but have to rely on outsiders for parts, which incurred higher cost. They lacked techniques and skills required for all sorts of repairing and maintenance of their mills.
- One major challenge is how to attract young generation to this water mills enterprise. It would be difficult to impart training on new techniques and skills to the entrepreneurs who were mostly old aged with little education level.

6. Conclusions and Recommendations

Enhancement in efficiency of traditional water mills in the rural mountains by adopting improved basic technologies is essential to increase their milling capacity. This thus increases income not only of the mill entrepreneurs but also reduces drudgery of the mill users or villagers thereby use saved time in productive purposes. MEDEP made an effort to support the traditional water mill owners by providing training on skills, technology and enterprise development, as well as facilitating to access to institutional credit in Nuwakot district. Impacts have been seen on improving the livelihoods of IWM entrepreneurs, which reflected in the form of increasing capacity of expenses being made on household stuffs, education, medicine, maintenance and repairing of houses, etc. Thus, the livelihoods of the entrepreneurs and their families have relatively been ease. However, the entrepreneurs have to adopt alternative livelihood occupations, as the water mill alone could not provide full employment and income throughout the year. Multiple employment or income earning strategies are common elsewhere in other areas of Nepal.

On the other hand, the customers also have got time saved and reduced drudgery being required for milling the grains previously. Most of them had used the saved time in productive sector such as growing of vegetables, tailoring, health and sanitation, etc. While some women had got negative impressions of the time saved, as they had to perform additional works during that time. However, one major challenge with the entrepreneurs is how to sustain IWMs in a more profitable way. Based on the consultation with stakeholders and target groups and review of the documents, it was

found that the water mills still needed further improvements in skills and techniques and continuous interventions from the concerned agencies to make their enterprises sustainable running. Followings are some of the suggestions:

- Some other potential enterprising activities require be exploring and providing training on skills of new activities to IWM entrepreneurs, as water mill alone is not adequate for providing enough income to their families.
- CRT (Centre for Rural Technology) Nepal report reveals that internal rate of return of IWM with multiple end uses is higher and profitable than single end uses. So, technology improvement is needed and can be provided in low water available areas too. This will help to run the mills throughout the year, as well as in many places and thus increases the income of the entrepreneurs and reduce drudgery of movement of villagers.
- As IWMs have to compete with hydroelectricity or diesel run mills, they are to be upgraded and enhanced their efficiency. CRT can provide technical support to convert the water mill power into electricity power.
- Linkage with finance institutions for getting credit should be done because the entrepreneurs are in need of converting short pipe to long pipe for better force. This can further increase the efficiency of grinding of IWM.
- Regular monitoring and observation and business counselling are required to the entrepreneurs, which should be provided by the institutions like MEDEP.

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