

# Micro Enterprise Development for Poverty Alleviation Volume III









**Micro Enterprise Development for  
Poverty Alleviation  
Volume III**

**Micro Enterprise Development Programme  
(MEDEP IV)**

**Government of Nepal-Ministry of Industry/  
United Nations Development Programme**

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नेपाल सरकार  
उद्योग मन्त्रालय

# लघु-उद्यम विकास कार्यक्रम

## Micro-Enterprise Development Programme



Empowered lives.  
Resilient nations.

Ref. No.:

## Forewords

Micro-Enterprise Development Programme (MEDEP) – a joint initiative of the Government of Nepal and the United Nations Development Programme (UNDP) has come a long way since it started working with rural poor in 1998. Over the last 16 years, it has evolved as one of the most successful poverty reduction initiatives directly working with the poor and yielding unparalleled results on the ground. It has helped the Government of Nepal (GoN) to build structures and environment for the sustainable micro enterprise development in Nepal. Eventually, GoN has internalized the programme into Micro Enterprise Development for Poverty Alleviation (MEDPA) since fiscal year 2009/2010. With the approval of MEDPA Five Year Strategic plan by the Government of Nepal in July 2013, both the Programmes are being implemented in unison. MEDEP has been expanded in the fourth phase (August 2013-July 2018) with an objective of the capacity building of the GoN agencies and private sector organizations for the sustainable micro enterprise development in Nepal.

The term micro-enterprise whose Nepali equivalent is Laghuudhyam entered the Nepali lexicon following the inception of the MEDEP programme and has evolved as an important area of study and practice. Therefore, knowledge production and management in this sector is very important. Realizing this fact, MEDEP has started systematic knowledge production and management by supporting independent researches and availing them for the interested sections of the society. Since 2008, MEDEP has been providing thesis, dissertation or internship supports to the students and scholars.

The synopses of these research reports are published as a compilation entitled Micro Enterprise Development for Poverty Alleviation. The first volume was published in 2010 and second in 2013. Both these publications received a warm welcome from universities, campuses, development organisations, research institutes, and individual scholars alike. All individual articles are also uploaded in the MEDEP website [www.medep.org.np](http://www.medep.org.np) for dissemination to wider public. As more researches are produced in subsequent years, MEDEP is coming up with this third volume.

This volume consists of the synopses of 9 theses alongwith an analytical summary of these reports and two assessments commissioned by MEDEP. The full reports



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of these studies can be accessed at the MEDEP Office, Dhobighat, Lalitpur or the respective universities/colleges where the students submitted their thesis. I believe that these reports would give an insight into micro-enterprise development in Nepal, lessons learnt from this programme and the immense potential of expanding similar programmes to reduce poverty in Nepal.

I hope that the synopsis of those researches would be very useful for MEDEP, the GoN, the UNDP, the donors, researchers, students, scholars and other interested individuals.

I also take this opportunity to thank Australian Government for their crucial financial support to the programme. I also express my gratitude to the United Nations Development Programme (UNDP) for continuously providing technical support to the MEDEP programme and also for supporting GoN's efforts to internalize MEDEP MEDPA.

**Yam Kumari Khatiwada**

Joint Secretary, Ministry of Industry and  
National Programme Director, MEDEP





Empowered lives.  
Resilient nations.

## Foreword

The Micro Enterprise Development Programme (MEDEP) launched in 1998, as a joint poverty alleviation initiative of the Government of Nepal and the United Nations Development Programme (UNDP), has evolved as a successful model of poverty alleviation. It has helped over 70,000 people to start their own businesses which have in turn created 75,000 jobs in rural areas.

In addition to supporting poor families at the grassroots level, MEDEP has played a key role in influencing policy and has led government bodies to introduce pro-poor, inclusive and microenterprise-friendly policies and programmes. The government has, for example, adopted the MEDEP model in its new programme: Micro Enterprise Development for Poverty Alleviation (MEDPA) Programme. The MEDEP will support the two agencies under the leadership of the Ministry of Industry – the Department of Cottage and Small Industries and the Cottage and Small Industries Development Board – to gradually take over the responsibility of creating and sustaining micro entrepreneurs and enterprises. As the government agencies take over the direct implementation role, MEDEP will focus more on capacity building, institutional development and policy advocacy.

The success of MEDEP can be attributed to the promotion and use of evidence-based advocacy to influence policy. It has commissioned research and assessments with the findings used to improve programme implementation and advocacy for pro-poor and inclusive government policies and programmes. Findings are set out in *Micro Enterprise Development for Poverty Alleviation Volume III* – this is a compilation of synopses of research commissioned by MEDEP over the last five years.

I believe that this can be a useful reference for planners, implementers, entrepreneurs, students, teachers, researchers and general readers alike in conceptualizing, planning, implementing, monitoring and upscaling micro enterprise development programmes in Nepal and elsewhere. I am very happy that MEDEP is making valuable information widely available.

I also take this opportunity to thank the Australian Government for providing support to the programme and to the Government of Nepal which has incorporated the programme into its own SME support programme (MEDPA).



Sophie Kemkhadze  
Country Director, a.i.



## Acknowledgements

Micro-Enterprise Development Programme (MEDEP) which started as a pilot initiative in 1998 with the support of the United Nations Development Programme (UNDP) has come a long way with financial support from many other development partners. The MEDEP is on the fourth phase now after successfully completing first (1998-2002), second (2003-2007) and third (2008-2013) phases. The Australian government is the largest donor in the ongoing fourth phase while it also significantly contributed in the third phase. Likewise, DFID, New Zealand AID and CIDA provided crucial supports during the second and the third phases.

Over these phases, knowledge management has become one of the priority areas of MEDEP. The programme has commissioned various researches and assessments which were very useful to make the Programme more effective and targeted. Over 120 students of Doctoral, Masters and Bachelor degree are supported to carry out their dissertation/thesis on various aspects of programme's interventions. These provide crucial feedback to the programme are useful for other programmes working in the areas of poverty alleviation, enterprise development, natural resources, forestry and agriculture. In order to make them available to a wider range of audiences and motivate scholars and development practitioners to share their experiences and knowledge, MEDEP has been publishing the synopses of these researches as a compilation entitled Micro Enterprise Development for Poverty Alleviation. MEDEP published the first volume consisting synopsis of 24 researches in 2010 and came up with the second volume comprising of 14 theses and four research reports in 2013. Both these volumes were received warmly by wide range of audiences which inspired us to come up with another volume of the compilation of research reports.

My first and foremost thanks go to all the researchers who endeavored hard to carry out the research studies. I am equally grateful to the universities, colleges and other academic institutions for collaborating with MEDEP to carry out these studies through their students and research fellows. I owe deep gratitude to the supervisors of the respective research works and MEDEP colleagues who also helped the researchers to make appropriate research design and provided required guidance during research studies.

This compilation would not have been possible without the tireless efforts of Neeraj Narayan Joshi, Ph. D. who toiled hard to extract synopsis from the long and voluminous reports. My special thanks go to my colleagues Dr. Lakshman Pun, Chief Technical Advisor of MEDEP for his insightful inputs during various phases of research and preparation of this volume and Indra Dhoj Kshetri, Communication and Documentation Specialist for editing and coordinating the publication of this volume.

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28 October 2014

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# Analytical Summary of the Research Studies<sup>1</sup>

## 1. Introduction

Researchers and scholars, through conducting multidimensional studies, have been making great efforts to understand and show how enterprises could be pushed to expand, flourish and sustain. Researches being undertaken in this area have presented some evidence on the value of operating and expanding micro-enterprises to creating employment and income generation opportunities for some people. This paper is a product of the analysis of the research reports being reviewed (presented in the form of synopses in the ensuing sections). All of these research works were supported by Micro Enterprise Development Programme (MEDEP), which is a joint poverty alleviation initiative of the Government of Nepal, Ministry of Industry and United Nations Development Programme (UNDP). However, these studies were independently carried out by the researchers as part of the requirements for their academic degree programmes. The main purpose of this paper is to (i) analyse the research reports being prepared in the form of theses/dissertations that have been submitted to various educational institutions, and (ii) identify and present some areas for future research in the context of micro-enterprise development in Nepal.

This paper begins with a brief description about the themes of the research reports reviewed, followed by presentation of theme-wise analytical summary of these reports. This paper closes with a section that presents some of the thoughts to be considered for undertaking future research studies. It is pertinent

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1 An Analytical Write-up – 2014 by Dr. Neeraj N. Joshi, Reviewer of the Reports of this volume, Kathmandu, Nepal.

to mention here that much of the information contained in this paper draws upon the research reports under review.

## **2. Themes of the Reports Reviewed and their Analysis**

In all, nine research reports were reviewed, and their synopses were prepared. All the researches were undertaken in the context of micro-enterprise development in Nepal. Micro-enterprise development is a strategy to help low-income individuals achieve economic self-sufficiency. Though micro-enterprise is a small business that produces goods and services for cash income, yet it plays key roles in income and employment generation. The Industrial Policy 2010 of Government of Nepal defines micro-enterprise as any industry, enterprise or other service business, based particularly on agriculture, forest, tourism, mines and handicrafts, which meet the following conditions: (a) In the case of a manufacturing industry, enterprise involving the investment of fixed capital of not exceeding two hundred thousand rupees, excluding house and land, and in the case of a service enterprise, an industry or enterprise involving the investment of the fixed capital of not exceeding one hundred thousand rupees, (b) The entrepreneur himself or herself is involved in the management, (c) A maximum of nine workers including the entrepreneur are employed, (d) It has annual turnover of less than two million rupees, (e) If it uses an engine or equipment, the electric capacity of such engine or equipment is less than 10 kilowatts.

The main themes on which the researches were dealt with included: (i) Micro-enterprises for Socio-economic Status and Livelihoods Improvement, (ii) Practices and Trends of Small and Micro-Enterprises Development, (iii) Technologies and their Impacts, (iv) Social Inclusion and Women Empowerment, (v) Backward-forward Linkage of Production and Marketing, and (vi) Significance of Business Development Services. Therefore, the analytical summary of the papers being reviewed are presented along these main themes.

### **2.1 Micro-enterprises for Socio-economic Status and Livelihoods Improvement**

The research reports reviewed under this theme indicated the importance of



enterprises, in particular the micro-enterprises; in enhancing the socio-economic life and livelihoods. The studies showed that while the enterprises (farm-based i.e., riverbed farming or tourism based, i.e., operation of community based lodges and home-stays) contribute to enhancing the socio-economic status of the entrepreneurs, the operation of micro-enterprises is likely to be affected by several factors. The studies also revealed that after their involvement in riverbed farming, the farmers have improved their livelihood status, mainly in the food security, family health, children's education and saving. The studies identified such factors (i) the incomes from the enterprise invested for the community development, (ii) the local people's opportunity to sell local products, (iii) people's thinking of community welfare instead of individual, and (v) creation of favourable working environment as the constructive ones to the success of the enterprises.

However, the studies realised that there are some factors that need to be taken into consideration for operating the enterprises at a satisfactory level. Therefore, the studies recommended that, among others, the enterprises should be linked with the market, and the efforts are needed to deal with the problems (e.g., high cost of production and more profit earned by the middlemen out of the marketing process, etc.) related to enterprises for fostering the enterprises. From the business policy and practice perspectives, in fact, establishment of efficient institutions which seek to improve functioning of markets is crucial for the growth and development of micro-enterprises. As it appeared from the reports, the production could be further enhanced if the problems, like crop-damage by wild animals; pre-monsoon floods and insect pests faced by the entrepreneurs, could somehow be lessened.

## **2.2 Practices and Trends of Small and Micro-Enterprises Development**

The research report has examined the significance of analysis and documentation of the facts related to the practices and trends of Small and Micro Enterprises, which have been in operation since long-time with reference to their growth, structural dynamics, productivity performance and development prospects.

The reviewed reports contained a brief description of the historical account of the institutional arrangement that existed during the regime of the Rana

regime in Nepal in the year 1935, and then onwards about the development of micro-enterprise development sector. The paper contained the results of the analysis of the trend and types of small and micro-enterprise in Nepal, and a comparison between the number of registered cottage and small industries and number of presently running industries. remuneration

The study indicated that, among the cottage and small industries, seven different types of industries (manufacturing oriented industries, energy-oriented industries, agro-forest based industries, tourism industries, mineral industries, service-oriented industries, and construction-oriented industries) were in practice. It further showed the production oriented industries being the highest in terms of number among all registered cottage and small industries, whereas the service oriented industries dominated the other types of cottage and small industries in the context of existing industries. These results imply that the service industries, production industries, tourism industries and agro-forest based industries are relatively more stable in nature, and that these types of industries are able to cope with the changing environment, and hence likely to earn profit. However, the research report did not come out with any recommendations that might have implications for the individuals and institutions (government and non-government including private sector) and other relevant stakeholders engaged in micro-enterprise development.

## **2.3 Technologies and their Impacts**

There are two papers being reviewed under this heading. The first one is related to development of technology and the other one is about the role of technology in terms of accessibility and appropriateness. Both the papers concluded that the MEDEP supported and adopted technologies contributed to generation of additional income for the entrepreneurs. The provision of appropriate technologies and the related training being imparted to the entrepreneurs helped the entrepreneurs to utilise the local resources for the promotion of enterprises, which eventually led to increased income generation.

The appropriate of technology depends on the context and circumstances it has been used. For examples, the farmers were of the view that, of the irrigation technologies, the drip irrigation was highly suitable for wide spaced horticultural and other crops, while sprinkler irrigation method was more suitable for closely

grown crops. They are also of the opinion that even though the initial capital cost of installation of sprinkle irrigation is higher as compared to local irrigation methods, it saves the cost of labour and time for irrigation in the subsequent years. To illustrate this they said that the use of sprinkler irrigation in strawberry cultivation along with other horticultural crops has raised the socio-economic status and living standard of the farmers. In contrast, they stated the locally-made local sprinkler requires a force of water for turning the sprinkler-head, and the presently available water may not be sufficient for operating this type of irrigation technology due to decrease in water availability. From their perspective, the drip irrigation technology is more appropriate for in terms of effective use of the available for their crops.

The studies found the MEDEP's Model containing six components microenterprise development process, one component being "Appropriate technology testing and transfer" for replication of, as being adequately effective and efficient for transferring the technology. However, the reports also pointed out various types of problems associated with the machines, and some being health related problems arising as a result of using the technologies. Therefore, it was recommended that more training should be provided to entrepreneurs to upgrade their knowledge and skills required to handle the technology for its smooth operation and long-term sustainability. This suggests that appropriateness of a particular technology should also be viewed from availability of its components, services and affordability on the part of the farmers besides its health and environmental implications while considering a technology to be adopted for a particular context.

## **2.4 Social Inclusion and Women Empowerment**

Under this broad theme, one of the studies tried to find out the underlying causes of success and failure of micro-enterprises among the Dalit micro-entrepreneurs. The study revealed that MEDEP had provided various forms of support to the poor and low income families with a complete package of enterprise creation and development through its programme as well as other government and non-government organisations.

However, the support provided was felt as insufficient by those hardcore poor and socially excluded groups. The study showed the non-Dalit micro-

entrepreneurs receiving more income benefits, as compared to the men and women Dalit entrepreneurs. The underlying causes stated for such situation included illiteracy, lack of unity among Dalits, lack of entrepreneurship, caste based discrimination, lack of financial management and business planning, and irregular support from development programme. On the other hand, several internal and external factors were reported to be positively affecting the micro-enterprises operated by Dalit micro-entrepreneurs. Such factors included: better social relationship, available of raw materials, good business planning, better access to market, easy access to micro credit as well as quantity and quality of the products were found to be contributing to the success of the business.

The other aspect covered by the reports was on women empowerment. This study assessed the impact of micro-enterprise development programmes being implemented by the government and non-government organisations in relation to women empowerment. The features as mentioned in the reports like improved economic status, and capacity developed to express their feelings and make decisions have been understood as by the women respondents as their empowerment. The report depicted women's participation in micro-enterprise development programme and the training they underwent as the factors that led to their empowerment; which literally meant improved income status as well as decision making capacity of women. The other factors that positively contributed to improvement in decision making power included their higher educational background and employment. The women respondents were stated to be self-motivated to participate in the micro-enterprise development programme, yet no reason for such a motivation was explained. The report itself has mentioned that it could not cover many aspects education, age, marital status, which may greatly influence explain the empowerment of women. Similarly, this research also could not address the decision making capacity of women at societal level, saying that these are also the areas to be considered for further research.

## **2.5 Backward-forward Linkage of Production and Marketing**

The report conceived linkages as the movements of materials, services and information involving a monetary transaction that are associated with a business enterprise, and such linkages can be in the form inputs to, or outputs from those

business enterprises. Final demand forward linkages are the customers using the products in the form that were sold. In terms of direction of flow, the linkage of market centre may be forward linkage and backward linkage. One of the well known methods for the analysis of interdependency between economic sectors is backward and forward linkage analysis. The forward linkage refers to the link of goods and services of a market centres to the centres of destination, whereas the backward linkage is the linkage between a market centre and its surrounding areas on which market centre depends for raw materials.

The study analysed different aspects of backward-forward linkage of ginger production and marketing with its potentiality in Salyan district of Nepal, with respect to four major activities of ginger farming, i.e., land preparation, market information, price fixation and processing. The report stated that a wide range of market functionaries including traders, brokers and commission agents are involved in the marketing of ginger. The farmers and other key stakeholders asserted that the present marketing system mostly worked in favour of the traders, brokers and commission agents, and they as market intermediaries control the system and lay claim to the highest shares of the price. Even though considerable progress has been achieved in various fronts of ginger production and marketing, the report stated that more has still to be done to sustain and strengthen the achievements made thus far. For this the report emphasises the need for creation of basic awareness on the quality needs among the stakeholders, adoption of technologies for quality production, development of necessary infrastructure, shorting centres and storage facilities at the community level. The study also indicated that farmers should become competitive through reductions in the cost of production and increased quality consciousness.

In response to diverse results of the study the report suggested, among others, to undertake investigations in different regions of the country with varying ecological, cultural and socio-economic backgrounds in order to make valid and wider generalisation regarding adoption, backward and forward linkages of ginger growers. The other key suggestion offered was 'analysis of specific functions played by different agencies in boosting production and export of ginger'.

## 2.6 Significance of Business Development Services

In the report being reviewed, business development service (BDS) has been understood as the non-financial services including training; technical and managerial assistance; developing, adapting and promoting new technology; assessing markets; giving marketing support; providing a physical infrastructure and advocating policy for micro-entrepreneurs. In Nepal MEDEP is one such programme, which has been providing financial and non-financial support services to the poor and excluded communities to improve their livelihood by creating various income generating opportunities through skill development trainings and support to establish small business enterprises. As the report mentioned, the other institutions providing BDS are Department of Cottage and Small Industry and Cottage and Small Industries Development Board. With the understanding that BDS being provided to micro-entrepreneurs can lead to employment generation, innovation and adding value to goods and services, flexibility in responding to dynamic markets, this study assessed the role of business development services provided by the government and NGOs to micro-entrepreneurs in economic development and employment generation of the rural people.

The report stated that BDSs provided by various organisations produced positive impact on the performance of micro-enterprises such as increment in (i) the number of employees, (ii) monthly family income, (iii) annual profit margin of the enterprise and (iv) positive change in demand of products. The report also mentioned a strong relationship between economic and social well-being of the micro-entrepreneurs being facilitated by BDS support, besides showing a synergistic value of the use of BDS together with microcredit to perform better, in terms of product diversification and increasing the demand of their products. The respondents of the study perceived 'training' as being the most beneficial component BDS, which is required for technical as well as entrepreneurial skill development at various levels of micro-enterprise growth. The report also used standard tests known as 'Mann-Whitney test' and 'Kruskal Wallis test' to analyse the relationships between economic and social status of the micro-entrepreneurs and BDSs supported to them. The study revealed that BDS support ensured economic growth of the enterprises as they performed satisfactory. However, the report also depicted a discrepancy between the micro-entrepreneurs' BDS needs and the services currently delivered to them,

thus indicating a need for providing BDSs that are relevant and useful to the micro-entrepreneurs.

### **3. Implications for Future Research Studies**

There is much agreement on the importance of microenterprises in developing countries and this has led to research of various types and the establishment of specialised programmes and institutions in this sector. However, while the results presented in the papers under review suggest positive outcomes for micro-enterprise development, there are some areas/issues that were not adequately covered by the studies, thus indicating that research is still needed for exploring more thoughts as well as deeper understanding of the unresolved issues/problems. The research results often inspire new questions that lead to further research areas, which may have broader impact and applications. The findings of scientific research help us making informed decisions, be it for framing policies/strategies or designing development programmes. Therefore, based on the major results and conclusions presented by these reports, the following implications have been put forward for consideration while undertaking future research studies.

#### **3.1 Implications for Researchers**

- The findings presented in the research reports are based on limited samples (e.g., respondents, physiographical locations, etc.) and data collection techniques. Hence, the findings and recommendations contained in the reports as such should be generalised only after systematically testing in other varied contexts. This implies that a few more replications of similar studies are needed covering larger samples (number of respondents, wider geographical areas, and other ecological, cultural and socio-economic aspects) to have more precise exploration of underlying factors related to various sectors of micro-enterprise.
- Most reports have used both qualitative and quantitative research approaches. Blending of qualitative and quantitative methods is of greater utility for encountering the weaknesses associated with one particular method. However, the use of these approaches demands



fulfilling certain requirements (e.g., sample size of the respondents, choosing proper unit of analysis and scales of measurement of variables, etc.), which seemed lacking in some reports. Therefore, it is imperative that the researchers would ensure consideration of such requirements in order to produce the research results with greater degree of validity and precision.

- Some studies have come out with questions to be answered; some of them have been mentioned in the respective reports. Many of these questions constitute the areas for follow-up researches. Therefore, undertaking research studies focusing on these areas might be of greater relevance, while also exploring new research issues/problems.

### **3.2 Implications for MEDEP and other Organisations**

In Nepal, Micro-Enterprises Development Programme (MEDEP) has been implemented by the Ministry of Industry, Government of Nepal since 1998 with the technical and financial support of the United Nations Developments Programme (UNDP). MEDEP is the first such programme to work in the field of micro-enterprises development sector in Nepal. The goal of MEDEP is to improve the socio-economic conditions of the low-income families and socially excluded people in Nepal by diversifying the livelihoods and increasing the income of low-income families through micro-enterprise development and employment. While the research reports being reviewed constitute a sure sign that MEDEP's interventions are successful, the review indicated that there are some rooms for further enhancing the quality of such researches. Therefore, the following may be considered by the MEDEP and other agencies for commissioning/supporting research studies in the future:

- As most research studies under review indicated, the relevance of the micro-enterprise in the economy cannot be overemphasised. Given this context, clearly, more research is needed to analyse and better understand the constraining factors to the growth and development of micro-enterprises and its longer-term sustainability.
- Most studies were conducted focusing on the micro-entrepreneurs



as their respondents and the districts supported by MEDEP interventions as their research locations. Therefore, researches are also needed beyond the MEDEP intervention area and target groups of different micro-entrepreneurs in order to understand their entrepreneurial behaviour separately, as well as vis-à-vis those supported by external agencies. Such researches would also allow making comparison and contrast between the agency-supported micro-enterprises and control groups (non-target beneficiaries) respect to their operation, management performance, impacts, etc.

- The reports under review have presented a series of diverse and interrelated recommendations; some are general, while others are specific in nature. These recommendations have implications for different organisations engaged in development of micro-enterprise sector. Consideration of relevant recommendations by such organisations will contribute to promotion of micro-enterprise development in the country.
- From the review, it could also be realised that MEDEP should foster its collaboration with other pertinent organisations including academic institutions in the country in order to undertake more researches on diverse themes of micro-enterprise development for producing rigorous and relevant evidence that have implications for making informed decisions at policy and practice levels.

# Role of Riverbed Farming in Income Generation and Poverty Reduction in Kamala Riverbed<sup>2</sup>

## Abstract

*Micro-Enterprise Development Programme (MEDEP) and various other organisations have supported the farmers for training, subsidies in inputs and credit so as to enable them to undertake riverbed farming as an enterprise. In order to examine the income generation and livelihood status of riverbed farmers, a study was carried out in the Kamala riverbed area of Raghunathpur VDC of Dhanusha district, and Bhokraha and Chikna VDCs of Siraha district. For the purpose of the study, a total of 100 farmers involved in riverbed farming were randomly selected as the sample respondents. The results of the analysis showed that a majority of them did not have agricultural land of their own, and 68 percent of them depended on riverbed farming, growing mainly cucurbits and vegetable crops for their income generation. The study revealed that after their involvement in riverbed farming, the farmers have improved their livelihood status, mainly in the food security, family health, children's education and saving. However, a majority of the farmers did not seem to be satisfied with the current market price for their produce, because of high cost of production and more profit earned by the middlemen out of the marketing process. The major riverbed farming related problems faced by the farmers included crop-damage by wild animals, pre-monsoon floods and insect pests.*

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<sup>2</sup> Mini Thesis 2013 by Mr. Kumar Mani Dahal, Himalayan College of Agricultural Sciences and Technology (HICAST), Purbanchal University, Kathmandu, Nepal.

## 1.1 Background of the Study

In Nepal devastating floods during the rainy season have converted a large area of fertile lands as riverbeds and riverbanks in many parts of the *Terai*. The area under riverbed and riverbank is increasing every year in the country. These hectares of waste riverbeds were not properly used in past for crop production. However, these areas were used by a small community, mostly the Indians coming from Uttar Pradesh and Bihar, settling temporarily along the rivers and cultivating vegetables. There are large tracts of riverbed, which are regarded as wastelands and but can be properly utilised for riverbed farming. Lately, river bed farming technology has been widely adopted and scaled out by several government and non-government institutions in different districts of the country (Khanal *et al.*, 2004). Forum for Rural Welfare and Agricultural Reform for Development, an NGO, in validating and promoting commercial riverbed farming (RBF) in Nepal piloted at a commercial level in Morang district in 1998. With its successful implementation, the programme was later scaled out to Banke and few other *Terai* districts (Gurung *et al.*, 2012).

## 1.2 Statement of the Problem

MEDEP worked with the main objective of alleviating poverty among the women, poor, hardcore poor and socially excluded groups through creation and development of micro-enterprises. RBF is one of the important and emerging enterprises, and MEDEP has supported more than 330 resource-poor farmers of Siraha, Dhanusa and Bardiya districts to raise their income through cultivation and marketing of high value crops in the beds and banks of Kamala and Bardiya rivers in the *Terai* since 2009 (Pun and Pyakurel, 2013). Riverbed vegetable farming has been emerged as a niche based on-farm income generation activity for landless and land poor families, and well accepted by the farmers and agricultural organisations. Riverbed vegetable farming is one of the profitable businesses for the landless and resource poor farmers (Pande and Jaisi, 2011). Given this standpoint, this study was undertaken to assess how the riverbed farming technology presented itself as alternative economic and livelihood options for the marginalised farming households involved in river bank farming in the *Terai* region.

### 1.3 Objectives of the Study

The overall objective of the study was to examine the income generation and livelihood status of riverbed farmers in the Kamala riverbed area. The specific objectives were to:

- delineate the socio-demographics characteristics of the riverbed farmers,
- assess the effects of riverbed farming on employment and economic status of the farmers,
- assess the effects of riverbed farming on food security status of the farmers,
- examine the marketing of the products and marketing channel, and
- identify major constraints in riverbed farming.

## 2. Review of Literature

### 2.1 Concept of Riverbed Farming

Riverbed farming (RBF) is simply the cultivation of crops on seasonal riverbeds. In the past, RBF has been reported to be practiced in a smaller scale by the landless households. However, over time, RBF has become a promising measure to alleviate poverty of some people in the *Terai* region of Nepal. Rivers leave the narrow valleys of the hills and enter into the *Terai*, spreading out covering large tracts of land. As the speed of water flow reduces, silts are deposited in large quantities along the riverbeds. During the dry season the water retreats from large areas and riverbeds remain dry during the period between the months of October and May (<http://www.riverbedfarmingalliance.org.np/>).

Growing of cucurbits in riverbeds or river basin constitutes a distinct type of farming. These areas are called *diara* lands in Uttar Pradesh (UP) and Bihar. Cucurbits like bottle gourd, ash gourd, pointed gourd and melons are commonly grown in the riverbeds of Jamuna, Ganga, Gomati, Sarayu and other territories in Haryana, UP, Bihar, and other rivers in the remaining states. In Kerala, fertile basins of the river Padma and Manimala are utilised for growing crops like yard-long bean, bitter gourd and snake gourd, and cucurbits like ash gourd,

pumpkin, bottle gourd and watermelon are cultivated during summer season (Gopikrishnan, 2007).

## **2.2 Role of Riverbed Farming in Income Generation and Food Security**

Riverbed farming has successfully enhanced the household income and food security of landless and land-poor households in the western *Terai* of Nepal. The farmers grew cucurbit species on riverbed areas, and the net profit earned was calculated at NRs. 10,029.0 and NRs. 7,697.0 per household per cropping cycle in Banke and Morang, respectively (Gurung *et al.*, 2012). Similarly, in Rautahat and Sarlahi districts of central *Terai*, the farmers improved food availability for more than four to six months after their involvement in riverbed farming, and 3,165 households earned on an average NRs. 20,815.0 per household from a single crop cycle from about 0.11 hectares of riverbed land (HELVITAS Nepal, 2012). NARDF (2013) reported that a total of 30,390 farmers of river bank farming group under Janaki Woman Awareness Society (JWAS) working in the Mahottari, Sarlahi and Rautahat districts with 'the utilisation of degraded river basin produced 40 - 60 tons of fresh vegetable per hectare, and earned NRs.15,500.0 and NRs.19,200.0 in 2012 and 2013 respectively. Similarly, ICIMOD (2013) reported that a household can earn approximately \$300 on an average from 0.13 hectare of land, and riverbed crops can provide an additional four months of food security. It contributes to human wellbeing and livelihood by providing alternative means of income as well as food security for landless and land-poor households.

## **3. Research Methodology**

The study was undertaken in Raghunathpur VDC of Dhanusha district and Bhokraha and Chikna VDCs of Siraha District, which lie on the banks of the Kamala River. The study covered a total of 100 randomly selected riverbed farmers as the sample respondents.

The study used both primary and secondary data, collected from the field and various reliable sources. The primary data were collected from direct personal interview with the respondents involved in riverbed farming, using household survey questionnaire. Likewise, participatory rural appraisal (PRA)

and key informant survey were also conducted with local traders, agriculture cooperatives and District Agriculture Development Office (extension workers) in Siraha and Dhanusha districts. The secondary data were collected from the published and unpublished documents from various sources in order to obtain relevant information of the districts, commodities and products, market situation, institutional arrangement and nature of enterprises, and riverbed farming. Statistical programmes such as Ms-Excel and SPSS (ver.15) were used for processing and analysis of the primary data.

## **4. Results and Discussion**

### **4.1 Socio Demographic Characteristics of the Riverbed Farmers**

The average family size of the respondents was 6.5, and 36 percent of them had family sizes composed of up to 6 members. The respondents' age varied from 40-50 years and only 45 percent of them were literate. A majority (70%) of them depended upon agriculture for income generation. However, a majority of them did not have their own agricultural land, and 68 percent of them depended upon riverbed farming for their income generation. The major crops grown on the riverbed and river bank area by them included cucurbit vegetable. Most of the vegetables being produced by the farmers on riverbeds were sold for income generation. Similarly, a majority of the respondents were getting supports like training, subsidies in inputs and loan from various organisations such as Micro-Enterprise Development Programme (MEDEP) and other locally based MEDEP supported organisations.

### **4.2 Effects of RBF on Employment, Economic Status and Food Security**

#### **4.2.1 Effect on Employment Generation**

Riverbed farming is a seasonal farming, especially undertaken from the months between October and May. The respondents reported that the riverbed farming (RBF) provided their family members and others with an employment opportunity, as the cultivation of vegetables required more labour in comparison to the cereal crops production. On

an average, two family members, with a range of one to two farmers were found to be engaged in RBF from the months of October to May.

#### **4.2.2 Effect on Household Income Status**

Before the introduction of RBF, the respondent farmers were growing cereal crops as a major source of income. However, following the introduction of RBF, nearly one-half (47%) of them switched to this type of farming, mainly because of relatively higher profit gained as compared to cereal crop production. The average per household income earned in one cropping cycle ranged from NRs. 20,000.0 (from the cultivation of cucumber) to NRs. 28,760.0 (from the cultivation of watermelon). So far as their expenditure pattern was concerned, the respondents used to spend a larger proportion (44%) of their income for meeting their daily needs. Similarly, the proportion of income they spent on health and education accounted for 21 percent and 17 percent respectively. Only 4 percent of the income was found to be deposited as saving in micro finance through group saving schemes.

#### **4.2.3 Effect on Food Security**

Before engaging in RBF, 42 percent of the respondents could fulfill their food needs for only three months with their own production system. Likewise, only 8 percent of them had the food stock adequate for all round the year, with some surplus. After engaging in RBF, while the proportion of respondents with less than 3-month food security decreased to 20 percent from 42 percent, the proportion of respondents with more than 12-month food security increased to 13 percent from 8 percent. Similarly, the proportion of respondents with food security for 3 - 6 months increased from 22 to 25 percent. Similarly, the proportion of those who had food adequate just for 6 - 9 months increased to 22 percent from 18; and those with 9 - 12 months food security increased to 20 percent from 10 percent.

### **4.3 Marketing of the Product and Marketing Channel**

In *Teraí* region, there are weekly markets within short distances, called as '*haat bazaar*'. The respondent farmers reported that they had sold 36 percent of their products at local *hat bazaar* in the afternoon, and the remaining 64

percent sold in other markets. This means that the farmers have an advantage for selling their products on a regular basis. Most woman family members were involved in selling the vegetables at local '*haat bazaar*', this provided them with a source of earning. In the vegetable market chain, the farmers directly sold their product to the wholesalers in various markets. Besides, there were local-traders or middlemen who used to collect the vegetables from farmers' fields and delivered to different markets within and outside the district. For transporting the vegetables to various markets, the types of transportation means used included bullock-drawn carts, tractors, trucks and public buses. Bicycles were used for carrying only small volume of vegetables to the local '*haat bazaar*'. However, a majority (64%) of the farmers were not satisfied with the current market price for their produce, mainly because of high cost of production and more profit being earned by the middlemen out of the marketing process.

#### **4.4 Major Problems related to Riverbed Farming**

Riverbed farming is seasonal in nature, and only one crop can be grown in a year. Some of the common constraints experienced by the riverbed farmers in the farm situation included: crop damage by wild and stray animals; long drought in summer, need of frequent irrigation which also increases the cost of production, pre-monsoon flood which damages whole crops. Besides, the farmers also noted other problems such as selling of the products at random prices and sometimes even at lower prices than the production costs due to lack of proper market information and collection centres and storage facilities for vegetables.

### **5. Conclusion and Suggestions**

#### **5.1 Conclusion**

The advent and adoption of riverbed farming has created employment opportunities for the local people. After the involvement in RBF, a majority of the respondents have been able to improve their income and livelihood status, thus contributing to their children's education, health of the family members, and availability of nutritious fruits and vegetables from the riverbed farming.



Besides, they have also improved their housing conditions by replacing the straw-roof with galvanised sheets and acquiring some physical assets like television, mobile-phone set, bicycle, furniture, etc. On the whole, the river bed farming has offered an opportunity for the landless and land-poor families for improving their livelihood as well as food security status. However, the study also noted some problems related to farming, such as crop-damage by wild animals, insect-pests, pre-monsoon floods as well as inadequate irrigation and marketing facilities.

## 5.2 Suggestions

Based on the findings of the study, the following suggestions have been drawn for the farmers and stakeholders with regard to development of riverbed farming and proper utilisation of waste land in the *Terai* region of Nepal.

- Appropriate training on riverbed farming should be provided to the riverbed farmers.
- Collection centre as well as market information centre should be established for promoting the marketing system of the products.
- Land ownership problem in the context of riverbed farming should be resolved through provision of formal contracts signed between the farmers and concerned VDCs.
- Coordination between the efforts of the government and non-government organisations should be established for effective and sustainable scaling up of riverbed vegetable farming.
- Provisions should be made to protect the crops from floods.
- Provision of irrigation system should be made to prevent the standing crops from the drought and wild animals.

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# Impact Study of MEDEP- Promoted Tourism Enterprises In Parbat and Myagdi<sup>3</sup>

## Abstract

*A study was conducted in Myagi and Parbat districts of Nepal, where Micro-Enterprises Development Programme (MEDEP) had supported for promoting ecotourism activities through community lodge and home stay enterprise. MEDEP was initiated in 1998 by the government of Nepal and United Nations Development Programme with the main objective of expanding the livelihoods and increasing the income of low income families through micro-enterprise development and income generation. The study assessed the major impacts of community lodges on the lives of local people involved in MEDEP supported tourism enterprise, and the factors associated with operation of community lodges. The study adopted both qualitative and quantitative approach; and used interview and field study as methods to gather the information. The findings of the study indicated some positive social and economic changes in the lives of the community people due to undertaking of community lodge and home stay as an enterprise. The study also identified the factors such as: (i) the incomes from the enterprise invested for the community development, (ii) the local people's opportunity to sell local products, (iii) people's thinking of community welfare instead of individual, and (v) creation of favourable working environment, as the keys to the success of the enterprise.*

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3 A Research Report 2012 by Ms. Renuka Bhatta, Padma Kanya Campus, Tribhuvan University, Nepal.

## **1.1 Background of the Study**

Micro-Enterprises Development Programme (MEDEP) has been engaging in assisting the economic transformation of the rural masses and uplifting those people living below the poverty line, in collaboration of Government of Nepal (GoN) and United Nations Development Programme (UNDP). The GoN and UNDP initiated the MEDEP in July 1998 in 10 districts of Nepal, covering two districts each from the five development regions. The MEDEP aims to assist low income families by upgrading them as entrepreneurs, promote the development of their enterprises and create a strong partnership between consumers of micro-enterprise products and services, and local service delivery institutions. MEDEP has a multi-partnership initiative between the state institutions and the private sector (MEDEP, 2010).

## **1.2 Statement of the Problem**

MEDEP through its programme has supported various community based groups in Parbat and Myagdi districts in establishing and operating ecotourism based enterprises especially to establish and operate community lodges. Besides, MEDEP has been promoting local products in these districts and has launched agriculture- and forest- based production programmes for economic upliftment of the local people. It has also been supporting to operate community based home-stay system. An ecotourism can provide, if managed and catered properly, a favourable environment for the utilisation of natural resources to create sustainable income for businesses and individuals. Despite the fact that ecotourism being a newly introduced subsector in Nepal, it provides viable income-generating and employment opportunities for the local people. Though positive impacts are always the more desired ones, there are some negative impacts as well. Given these backdrops, this study has been undertaken focusing mainly on ecotourism to assess the impacts of the tourism enterprise.

## **1.3 Objectives of the study**

The general objective of the study was to assess the impacts the tourism enterprise on the lives of local people, and the specific objectives were as follows:

- assess the major impacts of community lodges on the lives of local

- people involved this sector, and
- assess the factors associated with the operation of community lodges.

## **2. Review of Literature**

### **2.1 History of Tourism and Nature Travel**

The history of nature travel is traced back to Aristotle who was known to have travelled to the island of Lesbos in the Aegean Sea, where he spent time studying marine creatures. Nature travel during the 19<sup>th</sup> Century was essentially a quest for spectacular and unique scenery. This was also the time when the concept of national parks came into being. The founders of national parks wanted to protect the environment but it was the tourists inside the national parks who "provided the economic and political rationale needed to translate philosophy into accomplishment" (Lascurain, 1996). However, the actual nature tourism began in Costa Rica in the early Eighties. The word 'ecotourism' was first coined by a Costa Rican tour operator while registering his business, which soon became a popular word and frequently appeared in the literatures in Costa Rica (Kunwar, 1997). But the 'ecotourism' phenomenon became more prominent and came into wide use after Hector Ceballos Lascurain published an article in 1987 with a definition of ecotourism. He described ecotourism as a nature based travel to relatively undisturbed areas with focus on education. It was then formally recognised by the 1989 Hague Declaration on Tourism that advocated rational management of tourism to contribute to the protection and preservation of the natural and cultural environment. Since then ecotourism has increasingly become a popular word for academics, professionals and businessmen.

### **2.2 Concept of Ecotourism**

The term 'ecotourism' is defined as travelling to relatively undisturbed or uncontaminated natural areas with specific objectives such as studying, admiring, and enjoying the scenery with its flora and fauna, as well as any existing cultural manifestations (both past and present) found in these areas (Lascurain, 1987). By this definition, nature-oriented tourism implies a scientific, aesthetic or philosophical approach to travel, although the ecologically motivated tourist

need not be a professional scientist, artist or philosopher. The main feature of such tourism is that the person who practices ecotourism has the opportunity of immersing himself/herself in nature in a manner generally not available in the urban environment (Boo, 1990; Fillion *et al.*, 1994).

Ecotourism differs from other forms of tourism particularly due to the opportunity for observation and learning it provides to tourists and its contribution to cultural conservation and long term sustainability of communities and natural resources. Therefore, it is a form of sustainable tourism that benefits the community, environment and local economy. This may be achieved through various means such as employment for local people or programmes where tourists contribute money or labour to community activities such as tree planting or conservation of local monuments or sites (SNV, 2003).

## **2.3 Perspective on Ecotourism**

Ecotourism is assessed from various perspectives. According to Scace (1993), nature travel is an experience that contributes to conservation of the environment while maintaining and enhancing the integrity of the natural and socio-cultural elements. He presents it as a new tourism strategy that balances development and economic gains by stimulating local economies. It is seen as a new force that can benefit both nature and developing destinations (Ross and Wall, 1999; Sullivan, 1989 cited in Scace, 1993), while it is also expected to be simply a travel to enjoy and appreciate nature (Filion *et al.*, 1994). Ecotourism is also seen as an interfacing of conservation concerns and tourism interests, setting free the synergy required to jointly preserve the quality of the environment while protecting nature and promoting tourism. Therefore, ecotourism has been viewed as a new tourism strategy that balances development and economic gains by benefiting both nature and destination areas (Farrell and Runyan, 1991).

'Ecotourism' is now seen as a model of development in which natural areas are planned as part of the tourism economic base, and biological resources and ecological processes are clearly linked to social and economic sectors. It is also expected to be a natural fit to protect biological diversity and find non-consumptive uses of natural resources which still show up on the national balance sheet" (Kutay, 1989).

### **3. Research Methodology**

This study was undertaken in Nagi village of Myagdi district and Dandakateri & Banskharka of Parbat district in Nepal. This study covered only those households that had owned community lodges or provision of home-stay. Of 196 households (136 in Nagi village of Myagdi, and 20 and 40 Dandakateri & Banskharka villages of Parbat), a total of 31 households (16 from Nagi, and 6 and 9 from Dandakateri & Banskharka) were selected as the sample respondents of the study.

This study used both quantitative and qualitative methods. In order to look into the changes in the household level incomes of the respondents involved in the operation of community lodges, a separate questionnaire was developed and used during the field work for collecting relevant information from the study areas. Qualitative method was used to look into the selected critical cases on good practices and success stories related to the socio-economic changes taking place in the lives of local people.

## **4. Results and Discussion**

### **4.1 Overall Impacts of the Community Lodges**

The community lodges in Myagdi and Parbat districts were started with the development of eco-trekking route for the betterment of the community, focusing on women groups. The MEDEP provided 60 percent support to build the community lodges for training and other activities, and the remaining 40 percent contribution was generated by the community itself. MEDEP provided them with different types of training such as trekking guide, cooking, etc. to establish community lodge.

In order for operating the community lodges in the form of enterprises, they also started organic farming leading to promotion of local products such as vegetables and fruits. The lodge owners had been growing potatoes, mushroom, orange, and plum at the local level. Similarly, they were found to be using the vegetables being produced from their farms for use at their community lodges. They were also using the fruits to make jam, juice and so on, besides selling to the tourists and in the local market. Similarly, they were selling other handmade products such as bags, gloves, diaries (made from Nepali paper)

to the tourists.

As a result of operating these enterprises, there have been some changes in the community. These enterprises kept the women household members engaged in the manufacture of handmade bags, gloves and diary (made from Nepali paper). These activities helped women to start business and become more active. They had been selling these goods to the tourists as well as in the nearby market. Such activities have helped women to increase their economic condition; thus rendering them independent. The local communities felt that the operation of enterprise has contributed to creation of employment as well as opportunity for the promotion and sale of local products. It was learned during the field work that they had also contributed their earning to construct community school buildings for educating the children in future. For sustainability of the community lodges, MEDEP also supported some of the local people to be trained as cooks, porters and tour guides.

## **4.2 Factors Associated with Operation of Community Lodges**

The respondents attributed the following factors to the success of their enterprise (community lodges): (i) investment of the incomes earned from the community lodge for the development their own community, (ii) the local people getting opportunity for selling of local products at local level, (iii) people thinking of 'community welfare' instead of individual, (iv) the enterprise helping develop 'we feeling' and creating mutual understanding among the community members, (v) creation of favourable working environment to all community members. On the other hand, the respondents were also of the view that the enterprise fetched less benefit for individuals, and that the people rarely got chance to invest money according to their wish through community operated lodges.

## **5. Conclusion and Recommendations**

### **5.1 Conclusion**

In the context of Nepal, community lodge and home-stay are very new concept. It started a few years ago. However, in a rural based country like Nepal, it is very useful concept because of geographical diversity and natural beauty. It is also an eco-friendly business. It has been found to be beneficial for the



betterment of the local people, especially the poor, as it keeps them socially and economically active. This model (community lodge and home-stay) contributes to development of the local area. Through community lodges and home-stay, the people often get chance to expose their living place to outside world as well as to better promote the local products and resources.

## 5.2 Recommendations

One of the factors contributing to success of the community lodge is its management aspect. Therefore, for smooth operation and management of community lodges, the community members should give special emphasis to its proper management.

Another important issue is its sustainability. For long-term sustainability of the enterprise, the community people themselves should take the responsibility rather than depending on the external support, e.g., donors, as the contribution from donor agencies are just short-term and not adequate. For sustainability of the enterprise, the community people should also be capacitated to undertake the enterprise through organisations of relevant training activities.

Similarly, community's effective participation is another important factor. Their participation should lead to creation of good working environment and development of market at the local level.

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# Practices and Trends of Small and Micro-Enterprises Development in Nepal<sup>4</sup>

## Abstract

*This study was undertaken to analyse the trend and types of small and micro-enterprise in Nepal, and to compare between the number of registered cottage and small industries and the number of presently running industries. The study is based on descriptive cum analytical research approach. The study used the secondary data, and analysis of the data was carried out with the help of percentage and the fitted time series model. The results of the analysis indicated that, among the cottage and small industries, seven different types of industries (manufacturing oriented industries, energy-oriented industries, agro-forest based industries, tourism industries, mineral industries, service-oriented industries, and construction-oriented industries) were in practice. It further showed an increase in the number of cottage and small industries by 1553 each year. In terms of the number, the production oriented industries was ranked as being the highest among all registered cottage and small industries, whereas the service oriented industries dominated the other types of cottage and small industries in the context of existing industries.*

## 1. Introduction

### 1.1 Background of the Study

Small and micro enterprises (SMEs) have been in operation since long-time in

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4 PhD Thesis 2013 by Bir Bahadur Karki, Tribhuvan University. Nepal

Nepal, and they have played vital role in the context of employment generation, utilisation of local resources, poverty alleviation, and economic growth of the nation. Like in developed countries, Nepalese SMEs can also operate as backbone of the medium and large scales industries by supplying necessary semi-finished goods, fabricating parts and other subsidiary goods. However, backward and forward linkage between these SMEs and medium and large scales industries are not seen as having reciprocal relation. There are more than 244,341 SMEs in Nepal's industrial sector and they have employed about 19, 87,387 people, with the total capital investment of Rs.14, 769.968 cores till 2012 (MOI, 2012a).

In Nepal, with the main objective of alleviating poverty through developing micro-enterprises and creating off-farm employment opportunities for the rural poor and socially excluded, Micro-Enterprises Development Programme (MEDEP) was initiated in 1998 with the technical and financial support of the United Nations Development Programme (UNDP) during the government's ninth five year plan. Officially, MEDEP is the first initiative to work in the field of micro-enterprises development sector in Nepal. The goal of MEDEP is to improve the socio-economic conditions of the low-income families and socially excluded people in Nepal by diversifying the livelihoods and increasing the income of low-income families through micro-enterprise development and employment generation (Pun, 2010).

## **1.2 Statement of the Problem**

Small and Micro Enterprises (SMEs) have been operated since long-time. Despite the spectacular growth achieved by Nepal's SMEs, not much research has so far been done on the issue related to their growth, structural dynamics, productivity performance and development prospects. Hence, this study intends to look at such issues and examine the practices and trends of SMEs.

## **1.3 Objectives of the Study**

The main objective of the research work was to examine the practices and trends of SMEs development in Nepal from Fiscal Year 2064/065 to 2067/068. The specific objectives of the study were to:

- analyse the trend and types of small and micro-enterprise in Nepal, and
- compare between the number of registered cottage and small industries and the number of existing running industries.

## 2. Review of Literature

### 2.1 Historical Background of Industry

During the regime of the then Prime Minister Judha Samser JBR, a powerful development board called *Udyog Parishad* was constituted in 1935 A.D. The *Udyog Parishad* was entrusted, among other things, with the task of developing agriculture, industry and commerce in the country. After a few years, Nepal *Kapada Ra Gharelu Ilam Parchar Adda* (referred to as the Department of Cottage Industry) was established in 1939. This department undertook many commendable measures for the growth of small and cottage industries in the country. Some notable changes took place after the signing of an agreement by the Government with the Ford Foundation on 28<sup>th</sup> April, 1954. Under this agreement, the Ford Foundation provided financial as well as technical assistance to Nepal for development of cottage, village, and small industries in the country (Shrestha, 1981). *Gharelu Ilam* Centre was established in Fiscal Year 2013/14 B.S. with the aim of providing various skill oriented training to the people. In F.Y.2021/22 B.S, the *Gharelu Ilam* Centre was extended to zonal and district levels. Likewise, in F.Y. 2022/23 B.S., the *Gharelu Ilam Kendra* was transformed as part of technical training branch under the Cottage and Rural Industry (DCSI, 2011).

The Department of Cottage and Small Industry (DCSI) was established in 2030 B.S. Similarly, the Cottage and Small Industries Development Board (CSIDB) was established under the Cottage and Small Industries Development Board Act 2031 B.S. to provide effective institutional support for promotion and development of cottage and small industries in the country. The prime objective of the CSIDB is to assist in the expansion, growth and development of cottage and small industries (IEDI, 1998).

## 2.2 Development Trend of Micro-enterprises

Small scale industries are defined as enterprises (industries) other than micro traditional and cottage having investment up to NRs. 50 million (Mol, 2010). The Industrial Policy of 1992 defined small industries as other than traditional cottage industries with a fixed capital investment up to an amount of NRs.10 million. In 1992 on the basis of division of scale, industries were classified into four groups, i.e., traditional cottage industries, small industries, medium industries and large scale industries. But in 2010, industries were classified on the basis of investment and nature of industries into five groups, i.e., micro-enterprises, traditional and other cottage industries, small scale industries, medium scale industries and large scale industries.

It has been witnessed that micro-enterprises have become increasingly popular in the context of new development agenda across the globe and more so in the developing world to address income and employment opportunities. Through the development of micro-enterprises, the people in rural areas get income and employment (UNDP, 1998). To promote and extend the business sector, government should be able to provide sound and friendly business environment for investment and their returns. Besides appropriate rules and regulation for security of investment, adequate and appropriate strategies and policy for production of goods, services and their market should be formulated (Karki, 2011)

## 3. Research Methodology

The study is based on descriptive cum analytical research approach. The data were collected from secondary sources, especially through industrial promotion statistics and industrial bulletin published by the Ministry of Industry, Department of Cottage and Small Industry. The collected data were edited and tabulated as required by the research approach. For analysis of the data, some statistical tools were used. Percentage and the fitted time series model were used for data analysis.

Fitted Times Series Model:

$Y = a + bt$  is a linear model, (Fitted time series model), where

$Y$  = Number of cottage and small industries

$a$  = Number of SMEs in average per year

$b$  = Number of SMEs in incremental basis per year

$t$  = Time in year

## 4. Results and Discussion

### 4.1 Number and Types of SMEs

In the Fitted Time series model, 'Y' is the number of cottage and small industries, and 't' is the time (in year). According to this model, as 't' (year time) increases by 1 year, then the number of industries increases by 1553.2 ( $\approx 1553$  number). It means that there is an increase by about 1553 number of cottage and small industries per year. Between the time period FY 2063/064 to FY 2067/068, i.e. five year time period, the increment in number of cottage and small industries (CSIs) was 1553 per year; whereas the increase in production oriented cottage and small industries was by 436. It means that, per year, there was an increment of about 436 production oriented cottage and small industries. In the case of energy oriented CSIs, there was a decrease of 13.8 ( $\approx -14$ ) per year. Likewise, the increment in agro-forestry based industries, mineral industries, tourism based industries, service oriented industries and construction based industries were by 141, 10, 279.5, 696.7 and 4, respectively. It seemed that the service oriented industries had the highest increment rate of 696.7 per year, followed by production oriented industries (436), tourism based industries (279.5) and agro-forestry based industries; i.e., increment of 141 per year (see Table 1).

**Table 1: Statement of Cottage and Small Industries (based on Classification)**

(FY 2051/52 to 2067/68)/ (FY 1994/95 to 2010/11)

S. N.	Class	FY 051/52 to 062/63 (1994 to 2005/06)	FY 2062/064	064/65	065/66	066/67	067/68	Grand Total
1	Production	62559	2967	3290	3988	4092	4746	81642
2	Energy-oriented	945	96	39	51	9	42	1182
3	Agro and Forestry	1778	251	377	611	578	855	4450
4	Mineral	259	4	24	654	3	65	1009
5	Tourism	3336	559	920	3983	1419	1707	11924
6	Service-Orient	30139	4653	4480	8025	6649	7052	60998
7	Construction	7261	181	252	410	270	191	8565
	Total	106277	8711	9382	17.722	13020	14658	169770

Source: DCSI (2011b)

Based on the Fitted Time series model, it is possible to forecast the number of (or the change in) cottage and small industries for a given period of time (year). For example, in the year 2070 B.S., the number of cottage and small industries would reach to 18910.6, and in the year 2075 the number would be 26,675.6. Therefore, as the trend shows, in terms of number, the cottage and small industries in Nepal would go on increasing.

## 4.2 Scenario of Registered and Existing Cottage & Small Industries

On the basis of the Fitted Time series model, the findings showed that there was an increase of about 1553 cottage and small industries between the Fiscal Years 2063/064 and 2067/068 B.S. in Nepal. However, when compared between the number of registered industries and existing industries, the analysis showed no increment with respect to all types of cottage and small industries each year till 2010/11.

Among the registered cottage and small industries, 48.10 percent industries were related to production oriented industries and ranked as the topmost. Similarly, the service oriented industries occupied 36 percent securing second position, followed by tourism industries (7.0%), construction industries (5.0%), agro-forest based industries (2.6%), energy oriented industries (0.70%) and mineral industries (0.6%), with the ranking of second, third, fourth, fifth, sixth and seventh positions, respectively (Table 2).

**Table 2: Registered and Existing Industries till FY 2067/068 (FY 2010/11)**

S. N.	Subject or class of industry	No. of Registration of Industries	Percent	No. of existing Industries	Percent	Change in %
1	Production	81642	48.1	45594	36.4	-44.2%
2	Energy	1182	0.7	291	0.2	-75.4%
3	Age & forest	4450	2.6	4873	3.9	9.5%
4	Tourism	11924	7.0	12294	9.8	3.1%
5	Mineral	1009	0.6	114	0.1	-88.7%
6	Service	60,998	36.0	57,668	46.0	-5.5%
7	Construction	8565	5.0	9585	3.7	-46.5%
	Total	169770	100	1254199	100	

Source: MOI (2012)

Similarly, among the existing cottage and small industries, the service oriented industries occupied the uppermost rank securing 46.0 percent. This was followed by the production-oriented industries that occupied second position with 36.4 percent, and the tourism industries with an increase by 2.8 percent, agro-forest industries with an increase by 1.9 percent. On the contrary, the position of energy based industries decreased by 0.5 percent. Such a decrease was also noticed in the case of mineral industries was by 0.5 percent, and by 1.30 percent in the case of construction-based industries. These results imply that the service industries, production industries, tourism industries and agro-forest based industries are relatively more stable in nature, and that these types of industries are able to cope with the changing environment, and hence likely to earn profit.

## 5. Conclusion

Among the cottage and small industries, seven different types of industries were found to be in practice. They included production (manufacturing) oriented industries, energy-oriented industries, agro-forest based industries, tourism industries, mineral industries, service-oriented industries, and construction-oriented industries. However, the practice and trend of small and micro enterprises (SMEs) development in Nepal seemed to be at the initial stage. The Fitted Time series model presented that the SMEs were on the increasing



trend, except for the energy oriented industries. The average increment of the cottage and small industries was 1553 in number, in comparison to other seven different types of cottage and small industries. Service oriented industries have more increment ratio, followed by the production oriented and tourism based industries.

So far as the number of registered cottage and small industries are concerned, the production oriented industries occupied 48.1percent. This was followed by service oriented industries (36%) and tourism based industries (7%), respectively. On the other hand, in the case of existing running industries, the service oriented industries had taken the lead by 46 percent. This was followed by other types of industries such as production oriented (36.4%) and tourism industries (9.8%) respectively. The energy and mineral-based industries occupied less than one percent.

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# Use of Appropriate Technologies for Micro-Enterprise Development in Kavrepalanchok District, Nepal<sup>5</sup>

## Abstract

*In Nepal, micro-enterprises are growing in the recent years, and there is a constant expansion of technology as well. Micro-Enterprise Development Programme (MEDEP), a nationally-executed project of the United Nations Development Programme under the Ministry of Industry, has developed various kinds of appropriate technologies and provided support to micro-entrepreneurs. However, the documentation and analysis of present situation regarding the appropriate technologies have not been done yet. In view of the fact that micro-enterprises are connected to the domain of technology, this study was undertaken to analyse the accessibility of the micro-enterprises to appropriate technology in four VDCs of Kavrepalanchok district with four major enterprises, namely, shoe manufacturing, incense sticks making, juice making and boutique. The findings of the study showed that the use of MEDEP supported appropriate technologies were found significantly beneficial in terms of promoting the enterprises as well as contributing to generation of additional income for the entrepreneurs. The provision of appropriate technologies and the related training being imparted to the entrepreneurs helped them utilise the local resources for the promotion of enterprises, which eventually led to increased income generation.*

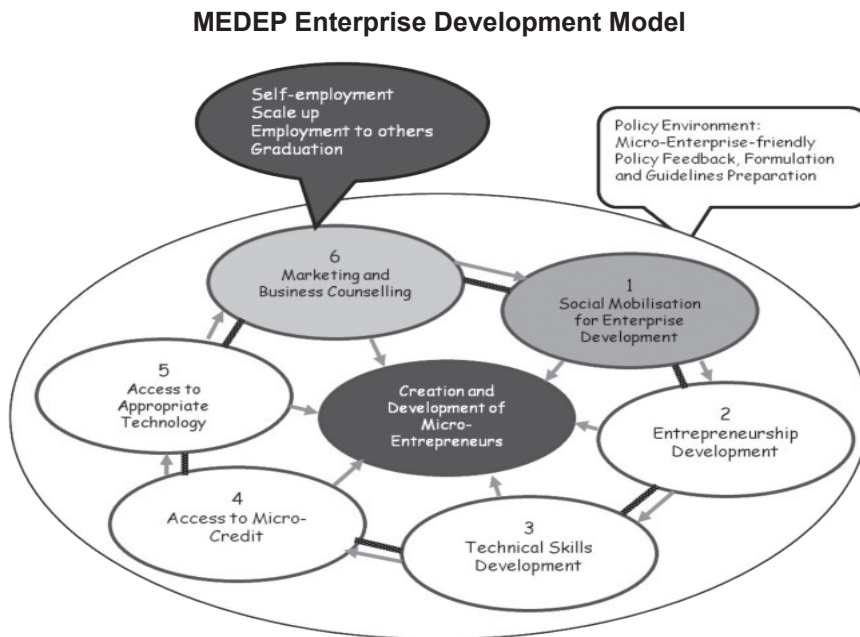
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5 M.A. Thesis 2013 by Ms. Sanju Rajak, Patan Multiple Campus, Tribhuvan University, Nepal.

# 1. Introduction

## 1.1 Background of the Study

Micro-enterprise is one of the measures of poverty reduction. By virtue of the features like small amount of investment, self employment generation, use of local resources, operation by family members, simple technology, meeting the local demands, etc., the demands of micro-enterprises is growing across the developing world. In Nepal, the Micro-Enterprise Development Programme (MEDEP), a nationally-executed project of the United Nations Development Programme (UNDP) under the Ministry of Industry, aims to diversify the livelihoods and increase the incomes of low-income families (MEDEP, 2010). The MEDEP Model, which is based on a pro-poor and inclusive entrepreneur selection and entry process, has six components of micro-enterprise development process. “Appropriate technology testing and transfer” is one of the key components (Figure 1). Entrepreneurs’ income is often affected directly and indirectly after the use of appropriate technology. MEDEP has supported various kinds of appropriate technology to its target entrepreneurs, besides providing trainings, and other necessary support (Pun, 2010).



*Figure 1: The MEDEP Model, with Appropriate Technology transfer as one of six components of micro-enterprise development process*

## 1.2 Statement of the Problem

Micro-entrepreneurs frequently lack information about technologies appropriate for their resources and skills (Jean *et al.*, 1990). In Nepal, micro-enterprises are growing in the recent years, and there is a constant expansion of technology as well, at the same time. Although MEDEP has developed various kinds of appropriate technology for micro-entrepreneurs, yet the documentation and analysis of present situation has not been done thus far, with regard to who are the users of appropriate technology, what types of technologies are being used by the micro-entrepreneurs, what are the problems and issues of technologies, how the technology is in operation (sole or in group)? Since it is quite evident that micro-enterprises are gradually connected to the domain of technology, it is pertinent to understand various dimensions of the relationship between micro-enterprises and use of technology. Therefore, this research was undertaken to answer these questions.

## 1.3 Objectives of the Study

The general objective of this study was to analyse the accessibility of the micro-enterprises to appropriate technology. The specific objectives were to:

- find out the nature of appropriate technologies used by the microenterprises,
- assess the role of appropriate technology in the income of micro entrepreneurs, and
- identify the problems faced by the micro-enterprises with regard to appropriate technology.

## 2. Review of Literature

### 2.1 Role of Appropriate Technology in Micro-enterprises

Micro-enterprises are the basic sources of goods and services, income and employment in developing countries, particularly for low-income groups. It emphasises key issues related to identification of appropriate technologies for micro-enterprises, analysis of subsector linkages and relevant macro-policies, methods of commercialisation and dissemination of technologies.

It also examines the role of technological assistance in micro-enterprise programmes, and ways in which development agencies can provide this assistance. Technologies are the key to increasing the productivity of micro-enterprises, and generating broad-based and sustainable economic growth. The upgrading of technologies can facilitate the establishment and growth of new types of manufacturing enterprises that allow more of the value added in the processing of raw commodities to be captured in rural areas. Unlike larger firms, which often can generate and adopt new technologies on their own, micro-enterprises may need assistance so that they can upgrade their production methods (James, 1984).

## **2.2 Identification of Technologies for Micro-enterprises**

Micro-enterprises typically rely on small-scale equipment and processes (often locally made), and locally available raw materials. As compared with the conventional technologies, appropriate technologies are typically less capital intensive; more labour intensive; less dependent on scarce foreign exchange for imported goods; and easier to operate, maintain and repair. Yet appropriate technologies are usually labour-saving in nature as compared to traditional methods of production (Hyman, 1987). The decline of large-scale industries that are dependent on foreign exchange for imported inputs also represents an opportunity to enhance the value added by micro-enterprises through technological innovations. There is an increasing recognition, by government officials in Africa, Asia, and Latin America/Caribbean regions, of the need for more appropriate technologies.

## **2.3 Appropriate Technology for Micro-enterprises**

Given that a range of different types of technology is usually available for a particular scale of operation, the choice of technology is often critical to the profitability and growth potential of micro-enterprises (James, 1984). Schumacher (1973) recommended finding out what the people are doing and help them to do it better, as resources devoted to research and development for upgrading traditional technologies are relatively low, and it can sometimes take substantial amount of time to modify a traditional technology. In scaling down modern technologies, many of the economies of scale that make the technology efficient may be lost. Moreover, the products of down-scaled modern

technologies may be less suited to the incomes and preferences of low-income or rural customers. Most off-the-shelf modern technologies and innovative replacement technologies tend to be less appropriate for micro-enterprises in developing countries because the research that produced these technologies was carried out in developed countries, where the relative costs of capital and labor are very different. However, some of the older modern technologies, innovative biotechnologies, or microelectronics may be appropriate for micro-enterprises in developing countries.

### **3. Research Methodology**

This research was conducted in four VDCs, namely, Tukucha, Panauti, Dhungakharka and Panchkhal of Kavrepalanchok district, with reference to the MEDEP supported four major enterprises like shoe manufacturing, incense sticks making, juice making and boutique enterprise.

Selection of a total of 29 micro-entrepreneur respondents (12, 5, 6, and 6 from Shoe-making, incense stick, juice making and boutique enterprises respectively) was done purposively. Information was gathered for the purpose of the study by conducting interviews with two categories of respondents: (i) the entrepreneurs and (ii) the staffs of District Micro-Entrepreneur Groups Association (D-MEGA) and Area Programme Support Organisation (APSO) of MEDEP. The research was based on both qualitative and quantitative types of data. The primary data were collected via the field study by adopting household survey, interview and observation. Similarly, the secondary data were gathered from different published or unpublished materials, including the websites. The researcher visited the above mentioned enterprises, which were taken as sample sites and observed the on-going activities as well. The data were analysed by using simple statistical tools such as percentage and average.

### **4. Results and Discussion**

The results of the study have been presented in line with the technology being used by the micro entrepreneurs for various enterprises, problems associated with these technologies, and changes in the income of the entrepreneurs due to use of appropriate technologies.

## 4.1 Use of Appropriate Technology and the Problems

### 4.1.1 Shoes-making Enterprise

The entrepreneurs said that for making a pair of shoes, 44 raw material items are required at a time, such as leather, sole, resin, nails, etc. Previously, the entrepreneurs used to make shoes by hand. They now use different machines, such as stitching machine, scanning machine, compressor machine, pasting and heater. With the use of these machines, they have been able to make the shoes quickly, easily, and well finished. About 50 percent of the machines were supported by MEDEP. For repair and maintenance of the machines, they go to *Tebahal* in Kathmandu, which is the only place for repairing. They have also been bringing all the raw materials required for their enterprise from Kathmandu. For them, this was the problem related to the distance to be traveled.

The respondents reported that they suffered from the health problems like headache and eye allergy while using the machines. Since the raw materials and repairing technicians were not locally available, they had to travel by bus for a distance of one hour to buy the raw materials and repair the machines, which they said was time consuming as well as costly.

### 4.1.2 Incense Sticks-making Enterprise

In this enterprise, most of the work was being done by hand, and only the grinding of the raw materials was done using the electric-power operated machine. The enterprises had been using two types of machines to make incense sticks, i.e., grinding machine and Lama Machine for making '*Lama dhoop*'. Since the grinding machine is little bit complicated, it is being normally used by the male members. The entrepreneurs would grind the mixture once a week, and use it to make the sticks. The mixture cannot be kept more than a week for the fear of getting it spoiled if stored for a longer period. The sticks also need solar-heat or the sun for them to be dried. Therefore, the entrepreneurs depended on the sun to dry the sticks. For this reason, they faced difficulties during the rainy season. For preparation of incense sticks, the materials required included: charcoal, *kaulo*, camphor and wide varieties of essence as ingredients. For making incense sticks, the entrepreneurs used their hands. Similarly, for getting



all the raw materials, they had to go to *Ason bazaar* in Kathmandu, which they find as the most problematic.

As such, there seemed to be no problem with the technology. However, the main problem facing the entrepreneurs was the distance to be traveled to bring raw materials required for making the incense sticks. They were not able to get appropriate materials like the essence from the shop. During the rainy season, they faced lots of problem while drying the incense sticks, as they were dependent on sun light for drying. The other support demanded by the respondents was 'Marketing support' for the enterprise to boom further.

#### **4.1.3 Juice-making Enterprise**

The respondent-entrepreneurs have been using the technology from the beginning of the enterprise establishment. They have been using grinding machine, for which the D-MEGA (MEDEP) supported 75 percent of its cost. The grinding machine was being used to grind the raw materials such as rhododendron, bael-fruits (known as wood-apple), etc. The machine was operable using electric-power only. But the enterprise required both the electric-power as well as fire wood for preparation of juice. Fire wood was used to prepare the sugar syrup for the juice preparation. The women entrepreneurs found the juice-making enterprise very friendly to them, as it involved a simple process.

One of the important problems faced by them was related to the availability of the electric-power. The other problems comprised hygienic problem and the equipments were lying messed up in all the places.

#### **4.1.4 Boutique Enterprise**

At first, the respondent-entrepreneurs were provided with a loom (locally called *Taan*; a wooden frame which is used for embroidering), by D-MEGA (MEDEP), and they were trained on how to operate it. They were provided with an electric-power operated machine (Appropriate Technology) by the D-MEGA. There was only one machine, on which six persons had to work at a time. This was a kind of limiting factor for them. For using the technology, they underwent 10-day training organised by the Business Development Service Provider (BDSPO) at Banepa in Kavrepalanchok district.



The problems reported by the respondents were not directly related to the technology as such, but related to its adequacy in numerical terms and marketing problem. The interruption in the supply of electric-power for operating the machine was reported as one of the important problems. The distance to be traveled was also considered a problem, as the entrepreneurs needed to go to Kathmandu for bringing the raw materials. They also indicated some health related problems such as head-ache, eye-irritation, etc. that occurred due to working with the machine.

## **4.2 Changes due to Use of Appropriate Technology in Entrepreneurs' Income**

The provision of appropriate technology (machines) and training to develop skills for the proper use of the machines resulted in promotion of their enterprises. In particular, the use of machines rendered their work trouble-free, while also helped making the production process more efficient and faster. The use of technology also led to improvement in the product's quality, as well as better packaging of the product for bulk markets. Similarly, the reduction in fuel costs and labor time saving due to use of appropriate technologies resulted in increase in the net income of the entrepreneurs. While some of the entrepreneurs had been able to come out of poverty after MEDEP's intervention, others were found to be doing well with a huge change in their per capita income.

# **5. Conclusion and Recommendations**

## **5.1 Conclusion**

The study showed that the use of MEDEP supported appropriate technologies has been significantly beneficial in terms of promoting the enterprises as well as contributing to generation of additional income for the entrepreneurs. The provision of appropriate technologies and the related training being imparted to the entrepreneurs helped them utilise the local resources for the promotion of enterprises, which eventually led to increased income generation by them. However, the study also indicated various types of problems associated with the machines, and some health related problems arising as a result of using the technologies.

## 5.2 Recommendations

- The MEDEP Model containing six components microenterprise development process, one component being “Appropriate technology testing and transfer”, was found to be adequately effective and efficient. Therefore, this model should be replicated in other areas as an appropriate model for transferring appropriate technology.
- As was found, various types of problems were resulting from the introduction of appropriate technologies to the entrepreneurs. Therefore, more training should be provided to entrepreneurs to upgrade their knowledge and skills required to handle the technology for its smooth operation and long-term sustainability.
- Access of the entrepreneurs to proper network should be improved for the flow of industrial information, raw materials, technology and market. Organising exhibitions or fair of the products would help widen the market. The government and concerned stakeholders should create an enabling environment so that the supply of raw materials is adequate and available for running the enterprises smoothly. An alternative to electricity should also be explored, as most machines are electric-power operated.

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# Micro Enterprise Based Income Benefit among Dalit Micro Entrepreneurs in Parbat District<sup>6</sup>

## Abstract

*A study was undertaken in Parbat district, the pioneer district of Micro-Enterprise Development Programme (MEDEP), focusing on two VDCs of Tilahara Rural Market Centre. The overall objective of the study was to find out the underlying causes of success and failure of micro-enterprises among the Dalit micro-entrepreneurs. Of a total of 184 entrepreneurs present in these two VDCs, 92 (50 percent) of them were selected as the sample respondents for the purpose of the study. The study used both primary and secondary sources for information collection. The study revealed that MEDEP had provided various forms of support to the poor and low income families with a complete package of enterprise creation and development through its programme, besides other government and non-government organisations. However, the support provided was felt as insufficient by those hardcore poor and socially excluded groups. The study also showed the non-Dalit micro-entrepreneurs receiving more income benefits as compared to the men and women Dalit entrepreneurs. Of several internal and external factors affecting the micro-enterprises operated by Dalit micro-entrepreneurs, the factors such as entrepreneurship, better social relationship, available of raw materials, good business planning, better access to market, easy access to micro credit as well as quantity and quality of the products were found to be contributing to the success of the business. On the other hand, the factors that led towards the failure of business operated by the*

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*Dalit entrepreneurs included illiteracy, lack of unity, lack of entrepreneurship, caste based discrimination, lack of financial management and business planning, and irregular support from development programme.*

## **1. Introduction**

### **1.1 Background of the Study**

Nepali society sustains the characteristics of socio-cultural diversity, which extends to caste/ethnicity, language, religion and region with about 102 caste groups (CBS, 2011) under the fourfold hierarchical Varna System of Hindu religion with the Brahmins/Kshetries at the top and Dalits at the bottom (Bhattachan *et al.*, 2008). The Dalits, who have traditional skills and caste-based occupation, are still under absolute poverty (Kisan, 2000). The poor need intensive support on income generation activities to get out of the pit of poverty because of having limited access to livelihood assets (NNDSWO, 2006). Micro-enterprise is the best alternative livelihood options for the poor, as it is based on local resources, low capital investment, local market availability, low level of management and minimum level of risks, which they can manage (MEDEP, 2010).

### **1.2 Statement of the Problem**

In Nepal, about 25.4 percent people live below the poverty line (CBS, 2011). MEDEP has been targeting the poor people to uplift their livelihood through resource based micro-enterprise programmes. Of nine indicators and criteria followed by MEDEP for selecting the target groups, socially excluded community (25 % Dalit) is one of them. The policy and strategy of MEDEP aims to support the hardcore poor families through skill development, access to micro credit, marketing of the products and transfer of appropriate technology along with favourable policy reform to uplift them from the vicious circle of poverty (MEDEP, 2010). However, in spite of heavy support from the programme, the Dalit micro-entrepreneurs have been suffering from different kinds of problems. Therefore, this study was conducted to find out the governance of input support to the poor micro-entrepreneurs by different stakeholders to establish and improve their business.

### **1.3 Objectives of the Study**

The overall objective of the study was to find out the underlying causes of success and failure of micro-enterprises among the Dalit micro-entrepreneurs. The specific objectives of the study were to:

- analyse the governance of input support to micro-enterprises,
- compare between the Dalit and non-Dalit micro-entrepreneurs in terms of income earned from enterprises operated by them, and
- analyse the underlying causes responsible for success and failure of micro-enterprises operated by Dalit entrepreneurs.

## **2. Review of Literature**

### **2.1 Input Support for Poor in Micro Enterprise Development**

Poor micro-entrepreneurs often have no capabilities to establish and run their business smoothly because they always lack resource (ILO, 2005). Therefore, they need special and direct support for their business, as an enterprise crosses through different stages. An input support encompasses entrepreneurship skill development, technical skill development, and adoption of appropriate technology, linkages with micro credit and marketing (packaging, labeling and branding and market exposures) on a regular basis (MEDEP, 2010). MEDEP has been providing such types of direct support through its Common Facility Centres and other organisations in different names like infrastructure construction support, revolving fund, business startup support, technology support, common property, community building, etc. (MEDEP, 2010).

### **2.2 Micro Enterprise and Income Benefits**

In developing countries, most of the economic activities come from small and micro scale enterprises, and the producers employ 40 to 70 percent labour force and accounts for one-third of domestic product (Todaro, 1997). In Nepal, micro-enterprises have contributed to income benefit among the rural poor and excluded families through generating income and making their livelihood easier than before (Koirala, 2007). Micro-enterprise is one of the most effective ways to lift the families out of poverty in developing countries (Todaro, 1997;

MEDEP, 2010). The poor and Dalit micro-entrepreneurs have been significantly benefited from micro-enterprise in rural areas through generating income and self employment (MEDEP, 2013).

### **2.3 Factors affecting Success and Failure of Micro-enterprises**

The indicators of failure of a micro-enterprise include low demand, lack of planning, no or low access to micro credit, lack of access to appropriate technologies, lack of market and marketing information, operational inefficiencies, poor accounting system, poor management, lack of raw materials, low level of education and awareness, inappropriate location of enterprise and low risk bearing capacity (MEDEP, 2010). Tihomola (2010) emphasises on the internal and external factors that affect small and micro-enterprises. Among these, the internal factors include access to market, access to appropriate technology, access to human resources, mismanagement of resources, lack of management skill, lack of qualified work force, laziness, over trading, lack of capacity, and poor costing and pricing. Similarly, the external factors are access to finance, high taxes, expensive inputs, high inflation and interest rate, policy, high competition, etc.

## **3. Research Methodology**

Parbat district, a pioneer district of MEDEP, was selected purposively in order to meet the objectives of the research because of existence of micro-entrepreneurs since 1998. The study basically concentrated on two VDCs of Tilahara Rural Market Centre in Parbat district. Of a total of 184 entrepreneurs present in these two VDCs, 92 (50 percent) of them were selected as the sample respondents.

The study used both primary and secondary sources for information collection. The primary data were collected from the micro-entrepreneur respondents through household surveys, focus group discussion and key informant survey. Similarly, the secondary data were obtained from the relevant books, research reports, journals and articles, academic research and dissertations, and websites. Information, facts and figures taken from the secondary sources were used to support and critically verify and supplement the information inferred in the findings of this study. Presentation of the information in this study was based on a descriptive analysis supported by the household based responses.

## 4. Results and Discussion

### 4.1 Governance of Input Support to Micro-entrepreneurs

The MEDEP had provided different kinds of support to micro-entrepreneurs through Business Development Service Provider Organisations as well as association of micro-entrepreneurs operating at settlement level to national level, besides the government mechanisms, on the basis of 6-circle model (social mobilisation, entrepreneurship development, skill development, access to micro credit, appropriate technology, marketing and counseling) – a complete package system. Table 1 presents the details of MEDEP's support to micro-entrepreneurs.

**Table 1: Status of Input Support**

Types of support	N=92	Support Frequency	Total %	Gender/Ethnicity-wise Support			
				DW	DM	NDW	NDM
Skill Training							
Gender awareness		92	100.0	38.0	12.0	25.0	25.0
HIV Aids awareness		92	100.0	38.0	12.0	25.0	25.0
Entrepreneurship							
Entrepreneurship skill tainting		92	100.0	38.0	12.0	25.0	25.0
Skill Training							
Enterprise related skill training		92	100.0	38.0	12.0	25.0	25.0
Micro Credit							
Link ME with micro credit		51	50.0	8.7	5.4	19.6	16.3
Appropriate Technology							
Appropriate technologies		40	43.5	9.8	4.3	15.2	14.1
Marketing							
Market information		66	62.0	16.3	8.7	19.6	17.4
Marketing training		41	44.6	10.9	4.3	16.3	13.0
Exposure visit		35	35.9	5.4	5.4	16.3	8.7
Exhibition participation		27	27.2	3.3	4.3	10.9	8.7
Counseling							
Business counseling		174	189.1	22.8	8.7	108.7	48.9

Source: Field Survey 2012

The respondent entrepreneurs were provided with gender and HIV Aids awareness training along with social mobilisation activities as well as entrepreneurship skill development training to energise them about the enterprise through relevant programmes. The training activities included identification of resources, business plan preparation, competitor analysis, market analysis, financial management, quality and quantity of production, assessment of appropriate technology, etc.

The programme had facilitated the micro-entrepreneurs to link them with the micro finance institutions for obtaining micro credit services. Of 50 percent micro-entrepreneurs having access to micro credit services, a majority of them were non-Dalit micro-entrepreneurs. Only 14.1 percent Dalit micro-entrepreneurs had access to micro credit services. Appropriate technology was another part of the support. About 44.0 percent micro-entrepreneurs were able to get different kinds of appropriate technology supports like ginger processing machine, tunnel for tomato farming, machine for bio-briquette pressing, *Lapsi* processing machine and so on through CFC model on group basis. However, only 14.1 percent Dalit micro-entrepreneurs including men and women had received technological support, which helped them promoting their business.

MEDEP had intensively supported on marketing. Out of 92 respondents, 62 percent received market information, 44.6 percent marketing training, 35.9 percent exposure visit and 27.2 percent participated in exhibition. However, the Dalit micro-entrepreneurs perceived that the support provided to them was not sufficient to operate their business smoothly. Business counseling had helped the entrepreneurs to assess their business whether as right or wrong and to sort out problems with possible solutions. The study indicated that only 24.0 percent had got regular counseling, while 42.4 percent received partial counseling and 33.70 percent did not get any counseling.

## **4.2 Income Benefit from Micro Enterprise to Poor**

The micro-entrepreneurs had been earning incomes from micro-enterprises. However, there was a significant income variation between Dalit and non-Dalit entrepreneurs, as well as men and women entrepreneurs. In spite of more or less equal support provided by the programme at initial stages as per the requirement, the income gap between the gender and ethnicity groups was



found to be very wide. Table 2 shows the income differences between Dalit and non-Dalit, and between women and men.

**Table 2: Average Annual Income Status**

Particulars	No. of Respondents	Year of operation	Average Annual Income and Profit		
			Sales (Rs)	Expenses (Prodn. Cost) Rs.	Profit (Rs.)
Dalit Women	35	8	19,885.0	4,642.9	15,242.1
Dalit Men	11	8	17,931.8	7,386.4	10,545.5
Dalit Total	46		19,417.9	5,298.9	14,119.0
Non Dalit Women	23	8	42,885.2	16,304.3	26,580.8
Non Dalit Men	23	8	34,359.9	13,587.0	20,773.0
Non Dalit total	46		38,622.6	14,945.7	23,676.9
Grand Total	92		29,020.2	10,122.3	18,898.0

Source: Field Survey 2012

The study revealed that the Dalit women's income was still below poverty level and their profit was also so minimal, as compared to Dalit men micro-entrepreneurs. However, there seemed to be more or less equal income and expenditure between non-Dalit men as well as women micro-entrepreneurs. On the other hand, there was a significant income gap between Dalit and non-Dalit micro entrepreneurs (men and women).

## 4.3 Factors Contributing to Successful and Failure Micro-enterprises

### 4.3.1 Factors Contributing to Successful Micro-enterprises

The study indicated that several factors contributed to the success of micro-enterprises. Of 92 respondents, while 64.1 percent of them had high the market demand of their products at the local level, only 8.7 percent had the market demand at regional level. In this regard, only about 14 percent Dalit micro-entrepreneurs had high level of demand at the local market. While about 42.4 percent micro-entrepreneurs had fulfilled the

quality and quantity demand of products, only 5.4 percent of Dalit micro-entrepreneurs had fulfilled both the types of demands; thus implying that the successful entrepreneurs fulfilled both quality and quantity demand of their products as per the requirement.

In terms of raw materials, on the whole, 83.7 percent entrepreneurs did not have problem with access to raw materials, as their enterprises were agro-based on the nature. However, only about 33 percent Dalit micro-entrepreneurs had easy access to raw materials. In contrast, more than 50 percent non-Dalit micro-entrepreneurs had access to raw materials. With regard to access to credit, the successful entrepreneurs (64.1 percent) had access to micro credit. Among them, 14.1 percent were Dalit micro-entrepreneurs and 50 percent were non-Dalit micro-entrepreneurs. This indicates that non-Dalit micro-entrepreneurs were more successful, as compared to Dalit micro-entrepreneurs.

Social participation and relationship form other significant factors that help entrepreneurs for receiving different kinds of support such as loan, technology, skills, and market from the community. Of 92 respondents, 50 percent lacked social participation and relationship. Among the Dalit micro-entrepreneurs with social participation, only 6.5 percent had medium level of participation in social activities. The entrepreneurs with good level of social participation were found to be more successful in their enterprises.

Similarly, those who had easy access to technology appeared to be successful entrepreneurs. Of the total respondents, only 38.0 percent micro-entrepreneurs had access to appropriate technology. Caste wise, only 3.26 Dalit and about 30 percent non-Dalit micro-entrepreneurs had access to technology. Thus, as it appeared, non-Dalit entrepreneurs were more successful than Dalit entrepreneurs. With regard to business plan, only 31.5 percent micro-entrepreneurs had business plans; hence only a small proportion of entrepreneurs could be considered successful. Similarly, most of the entrepreneurs did not keep their written accounts on a regular basis. Among the successful entrepreneurs, only 42.4 percent had maintained their accounts either in written or verbal forms. The entrepreneurship factor also helped the micro-entrepreneurs to become

successful. On the whole, about 80 percent successful entrepreneurs had entrepreneurship skills with them.

#### **4.3.2 Factors contributing to Failure Micro-enterprises**

Several direct and indirect factors seemed to have contributed to failure of enterprises operated by the Dalit and marginalised micro-entrepreneurs. About 59.0 percent micro-entrepreneurs had felt their skills as insufficient for promoting and diversifying their business, while 9.7 percent entrepreneurs felt that they lacked skills related to operating their enterprises. About 16.0 percent entrepreneurs had not received any skill development training related to their business. In the case of raw materials, a majority (60.9 percent) of the entrepreneurs had faced financial problem to acquire raw materials. Only a few (4.4 percent) respondents had faced legal constraint to obtain raw materials; especially the forest based resources.

Regarding micro credit, on the whole, 37.0 percent respondents had felt the high interest rate for obtaining the loan as problem, while 41.3 percent lacked collateral to get the loan and 21.7 percent reported that they faced the problem of lengthy process to obtain the institutional credit. Furthermore, it was found that about 27.0 percent Dalit micro-entrepreneurs had no collateral, whereas only 14.0 percent non-Dalit micro-entrepreneurs were found to be without collateral. The Dalit micro-entrepreneurs were found to be without access to Micro Finance Institutions.

Appropriate technology plays a crucial role in any enterprise to increase production and productivity. In this study, about 13.0 percent respondents were found to be lacking information about technology. Similarly, about 19.0 percent had not acquired technology as per their requirement, while about 68.0 percent respondents said that they did not have money to buy the technology. The Dalit and women entrepreneurs had faced more problems in contrast to the situation of non-Dalit and men entrepreneurs. With regard to market and marketing system, only 14.2 percent (10.9 % Dalit and 3.3 % non-Dalit) had no information about market. On the whole, the entrepreneur respondents who could not meet the quality of their product accounted for 50 percent, while those who could not meet the quantity of their product amounted to 29.4 percent.

One of the reasons for failure of enterprises was 'lack of business plan'. Most (85.9 %) of the entrepreneurs did not have their written business plan. Only 3.3 percent had the written business plan; however, they did not follow the plan and 10.9 percent entrepreneurs could not prepare their business plan. In order to manage a business, the transaction should be properly maintained. However, the study found that about a majority (65.0%) of the micro-entrepreneurs did not have proper book keeping system, while 14.1 percent micro-entrepreneurs had no training about book keeping. One of the major constraints to success in business was 'lack of proper maintenance of the financial transaction'. On the whole, the factors that contributed adversely to the business among the Dalits included illiteracy, lack of unity, lack of entrepreneurship, practice of caste based discrimination, lack of financial management and business planning, and irregular support from development programmes.

## **5. Conclusion and Recommendations**

### **5.1 Conclusion**

MEDEP provided different forms of support to the poor and low income families with a complete package of enterprise creation and development through its programme and other organisations. However, these supports were perceived to be insufficient by those hardcore poor and socially excluded groups. There was a variation in terms of the income benefits received by the Dalit and non-Dalit micro-entrepreneurs, placing the Dalit as a whole and Dalit women entrepreneurs on the disadvantaged side. Similarly, several internal and external factors contributed to success and failure of the micro-enterprises operated by the Dalit and non-Dalit micro-entrepreneurs. However, the study also indicated a few factors of failure that were relevant to the Dalit micro-entrepreneurs.

### **5.2 Recommendations**

Based on the major results and conclusion outlined above, this research has put forward the following recommendations.

- The support provided to micro-entrepreneurs belonging to hardcore poor, Dalit, women and marginalised group did not seem to be sufficient. Therefore, continuous and intensive support should be provided to these categories of micro-entrepreneurs.
- Economic empowerment leads to other types of empowerment and development of assets like social, cultural, human, natural and physical among the marginalised people. Therefore, micro-enterprise development programmes which are based on local resources and local market as well as demand driven in nature, as initiated by MEDEP, should be replicated by the government, NGOs, INGOs and bilateral organisations to reduce the poverty in Nepal.
- Only a small proportion of Dalits and women micro-entrepreneurs were found to be successful, while others faced numerous constraints. They did not seem to have received adequate support from the programme and other organisations. So the programme should focus on them, and devise special policy and strategy to support them for long-term sustainability of their enterprises.

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# Women Empowerment through Micro-Enterprise: A Study of Dharan Municipality<sup>7</sup>

## Abstract

*This study has assessed the impact of micro-enterprise development programmes being implemented by the government and non-government organisations for empowering women. The study was conducted in Dharan municipality of Sunsari district, covering a total 35 women involved in the micro-enterprise development programme as sample respondents. The findings of the study revealed that the women who participated in micro-enterprise development programme and training have improved their income status as well as decision making capacity. The study also revealed that the women respondents, with their family members having higher level of education and those employed, had more decision making power, as compared to those women with relatively lower level of family education. Most of the respondents were self-motivated to participate in the micro-enterprise development programme.*

## 1. Introduction

### 1.1 Background of the study

Women empowerment programme in Nepal include livelihood support, rehabilitation and job placement for rescued women, safe motherhood programme and so forth. The connection between poverty and women's lack of power over resources and decision making has now caught the attention of policy-maker in government and mainstream development all over the world.

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<sup>7</sup> Master's Thesis 2013 by Ms. Basanta Rai, Central Department of Anthropology/ Sociology, Tribhuvan University Nepal.

The advancement of women and the achievement of equality between men and women is a matter of human rights. Moreover, it is the only way to build a sustainable and just society. The empowerment of women, and equality between women and men are pre-requisites to achieving political, social, economic, cultural and environmental security to all.

## **1.2 Statement of the Problem**

The growing evidence shows that the economic and social development efforts had not benefited women as much as men; thus leading to the rise of income-generating activities for women in those countries. In Nepal, Micro-Enterprise Development Programme (MEDEP) was initiated in 1998 in 10 districts as a pilot programme with the technical and financial supports of the United Nations Development Programme (UNDP) with the main goal of improving the socio-economic conditions of the low income families and socially excluded people. With the success of the piloting phase beginning from 1998 to 2003 for five and half years, the programme was expanded to additional 15 districts for a period of four years from 2004 to 2007 covering 36 districts. The third phase of the programme covered the period from 2008 to 2010. The Ministry of Industry (MIO) was the main implementing agency, whereas the Ministry of Local Development (MoLD) and Ministry of Forest and Soil Conservation (MoFC) were the complementing agencies. Besides the government intervention, other organizations were also implementing various types of women empowerment programmes. Given this context, this study was conducted to assess the impact of micro-enterprise programmes in women empowerment.

## **1.3 Objectives of the Study**

The general objective of the study was to analyse the impact of institution on the lives of bucolic women in Dharan municipality. The specific objectives were as follows:

- examine the pre and post status of the women within the micro-enterprise programme, and
- examine the influencing motivating factors of women participation in micro- enterprise programmes.



## **2. Review of Literature**

### **2.1 Concept of Empowerment**

Empowerment has been described in many different contexts and by many different organisations. Kabeer (1999) conceptualised empowerment as the expansion in people's ability that was previously denied to them. Empowerment can be described in other words as a process whereby women become able to organise themselves to increase their own self-reliance, to assert their independent rights to make choices and to control over resources which will assist in challenging and eliminating their own subordination. Empowerment oriented intervention enhances wellness as well as target solving problems and providing opportunities for participants to develop knowledge and skills, and engage the professionals as collaborators instead of authoritative experts.

### **2.2 NGO and Women Empowerment**

There are a large number of national, district and local stakeholders based NGOs working for protecting either their members' groups or occupational interest, and human rights group that are engaged in protecting the civil rights of people. NGOs working in the areas of women empowerment, community forestry, technology transfer and micro finance targeting the poor in general and women in particular have performed well. They have also been successful in resolving the sustainability issues to a great extent (IIDS, 2004). NGOs working in awareness building, protecting human rights and raising voices for political, economic, social and cultural rights have equally been successful. On the whole, the NGOs movement has helped the poor and disadvantaged to form self-help groups, feel empowered in the process, and bring about improvements in their livelihood. This has created an opportunity to form their organisations, articulate and mainstream their priorities (UNDP, 2004).

Micro-enterprise programmes have highly affected the rural women who live below the line of poverty and survive in too much pitiable condition. Now-a-days, micro-enterprise has appeared to be a tonic in curing the diseases in the rural areas. The government and non-government sectors have realised that without women's development, overall development is not possible; still the outputs is diminutive. Now the time has come for the micro-enterprises and

private organisations to create sound environment for equal participation of men and women, and provide equal opportunities to contribute for betterment of the nation.

### **2.3 Micro-enterprise Development Programme and Women Empowerment**

Micro-enterprise training and development of small-scale enterprise is being seen as a viable strategy for creating economic opportunities for self selected individuals, who are with low-income and unemployed. A study on low-income micro entrepreneurs conducted by the Entrepreneur Development Institute (as cited in Dumas, 2001) found that among 53 percent people, who moved out of poverty, many derived their income not from a micro business alone, but from a combination of self empowerment and wages. Micro-enterprise development programme focuses on creating jobs, increasing the economic stability of individuals and increasing economic self-sufficiency. Encouraging micro-enterprise development also has spin-off effects. Micro-enterprises create jobs in a community; they provide for financial stability of neighbourhoods and help in restoring and building communities through a philosophy of self-help (Dumas, 2001).

## **3. Research Methodology**

This study was conducted in Dharan Municipality of Sunsari district. The study used both primary and secondary data. The primary data were collected from a total of 35 women sample respondents, who were involved in the micro-enterprise (ME) programme. Both quantitative and qualitative data were collected by employing interview schedule and through key informant interviews. The secondary data were collected from different published and unpublished sources. Interviews were held with all the sample respondents and some of their family members; mostly husbands and fathers to understand the roles of women in the family, and the changes they observe. The information about the women, who participated in the training on ME development, was gathered from their respective organisations and the participant women themselves. Key Informant Interviews were conducted to collect information about the operation of the programme. The analysis of quantitative data was done using simple statistics such as frequency and percentage distribution of the respondents.

## **4. Results and Discussion**

### **4.1 Effects of Micro-enterprises on Socio-economic Status of Women**

Before joining the programme, 74 percent of the women participants were just housewives or doing household works, and the remaining 26 percent were engaged in some small scale gainful activities. Following the training on micro-enterprise development, 7 percent of women started business enterprises on their own. Similarly, 58 percent women participants had not earned anything before joining the training and only 42 percent of the participants had some earnings before participated in the training. Of the total respondents, more than 91 percent respondents were involved in micro-enterprise activities, which helped them increase their earning.

So far as the decision regarding spending of women's savings is concerned, 59 percent of them were found to be consulting their family members or husbands and family heads or fathers for making decisions. However, 37 percent of women reported that their husbands and family members used to make decision about the savings and spending patterns.

### **4.2 Effects of Participation in Micro-enterprise on Empowerment**

Before participating in the micro-enterprise development programme, 80 percent of the respondents, who have illiterate family heads, reported that they have had a low level of decision-making capacity in relation to the family matters, and only 20 percent of them have had a high level of decision-making capacity. Similarly, of the respondents' families with their family heads educated up to School Leaving Certificate (SLC) level, 81 percent of them were found to have a low level of decision-making capacity, while only 19 percent of them were with a high level of decision making capacity. Of the respondents having their family heads educated up to Intermediate level and above, 83 percent of them were having a low and 17 percent of them were with a high level of decision making capacity.

Interestingly, as a result of their participation in the programme, the decision-making capacity of the respondents improved substantially. For example, 60 percent of the respondents (as compared to earlier 80 percent) having

illiterate family heads now have low decision-making capacity and 40 percent (as compared to earlier 20 percent) of such respondents have high decision-making capacity. Similarly, only 44 percent (as compared to earlier 81 percent) of the respondents with their family heads educated up to SLC now have low decision-making capacity. In contrast, 56 percent (as compared to earlier 17 percent) of them have high decision-making capacity. Of the families with their heads educated up to Intermediate and above, 67 percent of them now have a low decision making capacity for their involvement in MEs programme. These findings imply that the participation in micro-enterprise programmes contributed to enhance the decision-making capacity of the respondents.

### **4.3 Factors Motivating Women's Involvement in Micro-enterprise Programme**

Even though the choices for women were limited for ME activities, on the basis of the training, loans and other supports from ME programme, the activities such as incense stick making, bio-briquette making, compost manure making in the study areas provided the respondents with multiple reasons for joining the ME programme. The women respondents who were self-motivated to join the ME programme accounted for 37 percent, as they felt a need of something productive and earn income for their families. Similarly, 33 percent women joined the micro-enterprise programme due to the motivation received from their families, while some (15%) were encouraged by their neighbours and friends, and the remaining (15%) were encouraged by the ME mobilisers.

## **5. Conclusion and Suggestions for Future Research**

The women who participated in the micro-enterprise development programme have improved their income status, as they also involved in some income generation activities. These women claimed that they now have more say in the matters of their family decision-making, as result of their involvement in income generating activities. Because of their improved economic status the women were being treated as respectable members in their families. Most of the women respondents were self-motivated to participate in the micro-enterprise development programme. Those respondents who participated in the training programme have improved their decision-making capacity. The

women participants, who have had lower level of decision making power and sub-ordinate role in their families, have also improved their decision making capacity due to their participation in the micro-enterprise development programme.

The study could not cover many aspects that might explain the empowerment of women. Similarly, this research also could not address the decision making capacity of women at societal level. Moreover, the research could not deal with factors such as the women respondents' education, age, marital status, which may greatly influence their decision making capacity. These are the areas to be considered for further research.

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# Backward-forward Linkage Analysis of Ginger Production and Marketing: in the Context of Micro Enterprises in Salyan District<sup>8</sup>

## Abstract

*A study was undertaken in Salyan district with the main objective of analysing different aspects of backward-forward linkage of ginger production and marketing with its potentiality. The study used both primary and secondary data collection methods. For the purpose of the study, 35 ginger farming households were taken as the sample respondents, who had least 5 years old farm land for ginger production, besides the traders. The study analysed the linkages with respect to four major activities of ginger farming, i.e., land preparation, market information, price fixation and processing. The findings of the study showed that in the case of land preparation, of the total respondents, 55 percent of them did not consult with any agencies/institution/individuals, while 45 did consult with others, i.e., experts (12%), fellow farmers (22%) and NGOs (11%). For market information, 44 and 33 percent farmers had linkage with the traders and fellow farmer respectively, while 23 percent farmers were not aware about market. For fixing the price of the product, 6 percent farmers fixed the price by themselves, and 33 percent farmers followed their fellow farmers. The remaining 61 percent farmers followed the price determined by the traders. Similarly, 44 percent farmers processed their product on their own, and 17 percent processed using the knowledge gained from their fellow farmers. Likewise, 11 percent and 28 percent farmers had linkage with experts and NGOs, respectively.*

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# 1. Introduction

## 1.1 Background of the Study

Ginger (*Zingiber officinale*) is one of top fifteen major exportable items of Nepal as well as an important commercial crop contributing to the maximum share of the export of total production from Nepal to India and other parts of the world. Ginger is also one of the agriculture products identified by Nepal Trade Integration Strategy (NTIS) - 2010 as having export potentials. Ginger export from Nepal has been increasing since the past six years. From 2004 to 2008, the export of ginger increased by 34 percent, and it increased by 44 percent in the year 2011-12. Though ginger export from Nepal is gradually increasing, Nepal imported ginger worth Rs. 550 million due to lack of access to markets and transportation. Similarly, the traders were forced to import ginger despite adequate domestic production because of lack of access to markets (MoAC, 2012).

## 1.2 Statement of the Problem

In Nepal, micro economic enterprises play a vital role in poverty reduction in both rural as well as urban areas, and reinforce urban-rural linkages for economic and social development. The roles of micro-enterprises are important since they possess the features like self employment generation, employment to poor and women, use of local resources, meeting the basic needs of the poor, traditional enterprises skill and craftsmanship and innovative satisfaction in job, entrepreneurship and innovation, and fair income distribution among the people (MEDP, 2010). However, the linkage is essential. The forward linkage to the sectors utilising the output of the sector, and backward to the sectors providing inputs for the sector are essential not only for utilisation of local resources but also in acting as agents for the flow of goods and services between urban and rural areas. It is in this context that this study was undertaken to analyse the backward-forward linkage of the ginger production and marketing with its potentiality.

### **1.3 Objectives of the Study**

The main objective of this research was to analyse different aspects of the backward-forward linkage of ginger production and marketing. The specific objectives of the study were as follows.

- study the marketing practices adopted by ginger farmers,
- analyse the backward and forward linkage of the ginger production and marketing, and
- analyse the value chain and its integrator of ginger production and marketing.

## **2. Review of Literature**

### **2.1 Ginger Production in Nepal**

Among the development regions of Nepal, ginger production is highest in the eastern development region followed by the western, central, mid-western and far-western regions. However, the productivity seems highest in the far-western development region followed by the central and mid-western regions. Among the districts, the most important ginger producing districts are Palpa, Nawalparasi, Arghakhanchi, Syangja, Kaski and Tanahu in the western development region, Salyan in the mid-western region, and Ilam in the eastern region. The production of ginger almost doubled in a decade to reach 174,268 metric ton in 2009. However, the growth is attributed more to the area harvested than to the growth of yield. The growth of yield is 3.0 percent per year, as compared to 4.7 percent of the growth of harvested area during 1998 to 2009 (SITAI, 2010).

### **2.2 Conceptualising Linkage**

Linkages are the movements of materials, services and information involving a monetary transaction that are associated with a business enterprise. These linkages can be in the form of inputs to, or outputs from those business enterprises. Final demand forward linkages are the customers using the products in the form that were sold. The customers can be manufacturers, households, primary or tertiary activities (Hoare, 1984 as in Pradhan, 2004). In



terms of direction of flow, the linkage of market centre may be forward linkage and backward linkage. One of the well known methods for the analysis of interdependency between economic sectors is backward and forward linkage analysis. The forward linkage refers to the link of goods and services of a market centres to the centres of destination, whereas the backward linkage is the linkage between a market centre and its surrounding areas on which market centre depends for raw materials. This is called as horizontal or lateral linkage (Pradhan, 2004).

## 2.3 Value chain

The *value chain* describes the full range of activities, which are required to bring a product or service from conception, through different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use. For one thing, there tend to be many more links in the chain. Take, for example, the case of the furniture industry. This involves the provision of seed inputs, chemicals, equipment and water for the forestry sector. Cut logs pass to the sawmill sector, which gets its primary inputs from the machinery sector. From there, sawn timber moves to the furniture manufacturers who, in turn, obtain inputs from the machinery, adhesives and paint industries and also draw on design and branding skills from the service sector. Depending on which market is served, the furniture then passes through various intermediary stages until it reaches the final customer, who after use consigns, the furniture for recycling (Kaplinsky, 2007).

## 3. Methodology

The study followed the ex-post - facto design. The study was designed on the basis of inductive approach. In inductive approach, reasoning begins with specific observation and measures, begins to detect pattern and regularities, formulate some tentative hypothesis that can explore, and finally end up developing some conclusions or theories.

For the purpose of the study, 35 ginger farming households were taken as the sample respondents. Only those farmers, who had least 5 years old farm land for ginger production, were selected. The basis for fixing criteria of five years

old farmers was that ginger requires one year for harvest. So, in three years one can harvest 3 crops, which facilitate to study the linkage and adaptation of ginger growers. Similarly, only such collectors or traders who had at least 3 years experience in ginger business were selected for the purpose of the study. The 3 years experienced requirements for traders helped to obtain the reliable information on marketing. The primary data were collected from a sample of 35 the respondents through focus group discussion, interview method and observation. The primary data were supplemented by the secondary source derived from various books, reports, documents and maps.

## **4. Results and Discussion**

### **4.1 Marketing Practices Adopted by the Farmers**

Demand and supply is the major aspects of business promotion. Few farmers were well aware about marketing, but the farmers had their own practices for marketing. They decided the market time according to their own conditions. The farmers have their own practices according to their conditions for the marketing of ginger. In all, 44 percent farmers sold their products according to market rates. Likewise, 39 percent of the farmers marketed their product according to their financial need, and the remaining 17 percent farmers sold their products immediately after harvest. The major channels of ginger marketing are as follows: (i) Producer – Local Collector – Road head Trader/Wholesaler – Indian Commission Agents– Indian Wholesaler – Retailer – Consumer, and (ii) Producer – Road head Trader – Indian Commission Agents – Indian Wholesaler –Retailer – Consumer.

### **4.2 Functional Information Linkage of Ginger Growers**

This study dealt with four major activities of ginger farming, i.e., Land preparation; market information; price fixation and processing. Table 1 shows the activity and their information linkage with the agencies/institutes/individuals.

**Table 1: Functional Information Linkages**

Functional information linkage

Activities		Agencies/institutes / individuals	Percent of farmers
Land preparation and planting		Self	56
		Expert	11
		Fellow farmer	22
		NGO	11
Market Information		Fellow farmer	33
		Traders	44
		No one	23
Price Fixation		Self	6
		Fellow farmers	33
		Traders	61
Processing		Self	44
		Expert	11
		Fellow farmers	17
		NGO	28

Source: Field Survey, 2012

### ***Land preparation***

For land preparation, while 55 percent farmers did not consult with any agencies/institution/individuals, 45 percent did consult with others. Of this 45 percent, 12 percent farmers consulted with the experts. Likewise, 22 percent and 11 percent ginger growers consulted with fellow farmers and NGOs respectively.

### ***Market information***

For market information, 44 percent farmers had linkage with the traders. Likewise 33 percent farmer had linkage with fellow farmers for information about market, and the remaining 23 percent farmers were not aware about market.

### ***Price fixation***

In order to fix the price for their product, 6 percent farmers fixed the price by themselves and 33 percent farmers followed what their fellow farmers did. The remaining 61 percent farmers followed the price being determined by the traders.

### ***Processing***

Processing refers to value addition for better price of the ginger including *sutho*, candy, juice, etc. Of the total farmers, 44 percent processed their product by themselves and 17 percent processed with the knowledge gained from their fellow farmers. Likewise, 11 percent and 28 percent had linkage with the experts and NGOs respectively for processing of the products.

## **4.3 Value Chain Analysis of Ginger**

The value chain analysis was done using a standard format, which showed all cost, losses, margins and prices along the chain and the share of each actor as the product moves from production to local traders, wholesale market, retail market and finally up to the consumer. The analysis was based on the information provided by the farmers, and traders from Salyan district.

**Table 2: Value Chain Analysis of Ginger, Salyan**

Farmer/Grower		Local Trader/Collector		Road head traders		Indian commission agent	
Item	Cost Rs/ kg	Item	Cost	Item	Cost	Item	Costs
<u>Production cost</u>		Collection	1.50	Load/Unload	0.20	Commission	4.22
Seed	8.9	-	-	Transport	1.50	-	-
Labour	4.5	-	-	DDC Tax	0.25	-	-
Manure	1.1	-	-	-	-	-	-
Leaf	1.41	Acquisition cost	19	Acquisition cost	22.50	-	-
<u>Total production cost</u>	12.61	Total Local level cost	20.50	Total road head levels Cost	24.45	-	-
Post production cost		-	-	-	-	-	-
Transportation	1.1	-	-	-	-	-	-
Total farm level cost	16.17	-	-	-	-	-	-
Losses	-	Losses	-	Losses	2	-	-
Margin	2.83	Margin	2.00	Margin	3.55	-	-
Farm gate price	19	Total trader level cost	22.50	Total road head levels Price	30	Price at Indian wholesale market	34.22

Source: FGD with Growers and Traders, 2012

As given in Table 2, the total farm level cost was about NRs 16.17 per kg of the total cost. Seed represents the most important cost item around NRs. 54.0, followed by labour NRs. 28.36, fertiliser NRs. 11.63, and transport and others NRs. 5.45. The average farm gate price recorded at the time of field visit was NRs 19.0 per kg. The margin received by the producers was NRs 2.83 per kg. The local traders were generally involved in collection and transporting it to road head market centres. The total trader level cost was NRs. 22.50. The road-head traders and district level wholesalers were the key players in ginger marketing. The margin at this level was reported to be around NRs. 3.55 per kg.

## 5. Conclusion and Suggestions for Further Research

Ginger is an important spicy crop traditionally grown and typically produced for markets. A wide range of market functionaries including traders, brokers

and commission agents are involved in the marketing of ginger. Farmers and other key stakeholders were of the opinion that the present marketing system mostly worked in favour of the traders, brokers and commission agents. These market intermediaries control the system and lay claim to the highest shares of the price. Considerable progress has been achieved in various fronts of ginger production and marketing. However, more has to be done to sustain and strengthen the achievements made thus far. Special emphasis should be placed on creation of basic awareness on the quality needs among the stakeholders, adoption of technologies for quality production, development of necessary infrastructure, shorting centres and storage facilities. Such developments should take place at the community level. It is imperative that farmers should become competitive through reductions in the cost of production and increased quality consciousness.

The present study made attempt to analyse ginger production and marketing by ginger growers. Further, functional linkages with different systems involved in the transfer of technology, and also the backward and forward linkages of ginger growers were studied in a comprehensive way. As the study was limited to only Salyan district and it did not cover profit share, cost benefit analysis in different farm size, etc., the following areas have been suggested for future research.

- Investigations may be taken up in different regions of the country encompassing varied ecological, cultural and socio-economic settings. This will help to make valid and wider generalisation regarding adoption, backward and forward linkages of ginger growers.
- Identification of different market channels and profit share of different stakeholders to work out to facilitate policy formation for ensuring equal share of benefits
- Analysis of specific functions played by different agencies in boosting production and export of ginger
- Assessment of research needs in ginger and the impact of research outcome to enhance ginger export

- Focused study on documenting important management practices to ensure export quality ginger production.
- Feasibility studies to establish small and medium scale industries.

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# Micro Enterprise Income Benefit from Dalit Micro Entrepreneurs in Parbat District<sup>9</sup>

## Abstract

*A study was undertaken in Parbat district, the pioneer district of Micro-Enterprise Development Programme (MEDEP), focusing on two VDCs of Tilahara Rural Market Centre in Parbat district. The overall objective of the study was to find out the underlying causes of success and failure of micro-enterprises among the Dalit micro-entrepreneurs. Of a total of 184 entrepreneurs present in these two VDCs, 92 (50 percent) of them were selected as the sample respondents for the purpose of the study. The study used both primary and secondary sources for information collection. The study revealed that MEDEP had provided various forms of support to the poor and low income families with a complete package of enterprise creation and development through its programme, besides other government and non-government organisations. However, the support provided was felt as insufficient by those hardcore poor and socially excluded groups. The study also showed the non-Dalit micro-entrepreneurs receiving more income benefits as compared to Dalit entrepreneurs. Of several internal and external factors affecting the micro-enterprises operated by Dalits, the factors such as entrepreneurship, better social relationship, availability of raw materials, good business planning, better access to market, easy access to micro credit as well as quantity and quality of the products were found to be contributing to the success of the business. On the other hand, the factors that led towards the failure of business operated by the Dalit entrepreneurs included*

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9 Master Thesis 2013 by Dil Bahadur Bishwakarma, College of Development Studies, Purbanchal University



*illiteracy, lack of unity, lack of entrepreneurship, caste based discrimination, lack of financial management and business planning, and irregular support form development programme.*

## **1. Introduction**

### **1.1 Background of the Study**

Nepali society sustains the characteristics of socio-cultural diversity, which extends to caste/ethnicity, language, religion and region with about 102 caste groups (CBS, 2011) under the fourfold hierarchical Varna System of Hindu religion with the Brahmins/Kshetries at the top and Dalits at the bottom (Bhattachan *et al.*, 2008). The Dalits, who have traditional skills and caste-based occupation, are still under absolute poverty (Kisan, 2000). The poor need intensive support on income generation activities to get out of the pit of poverty because of having limited access to livelihood assets (NNDSWO, 2006). Micro-enterprise is the best alternative livelihood options for the poor, as it is based on local resources, low capital investment, local market availability, low level of management and minimum level of risks, which they can manage (MEDEP, 2010).

### **1.2 Statement of the Problem**

In Nepal, about 25.4 percent people live below the poverty line (CBS, 2011). MEDEP has been targeting the poor people to uplift their livelihood through resource based micro-enterprise programmes. Of nine indicators and criteria followed by MEDEP for selecting the target groups, socially excluded community (25 % Dalit) is one of them. The policy and strategy of MEDEP aims to support the hardcore poor families through skill development, access to micro credit, marketing of the products and transfer of appropriate technology along with favourable policy reform to uplift them from the vicious circle of poverty (MEDEP, 2010). However, in spite of heavy support from the programme, the Dalit micro-entrepreneurs have been suffering from different kinds of problems. Therefore, this study was conducted to find out the governance of input support to the poor micro-entrepreneurs by different stakeholders to establish and improve their business.

### **1.3 Objectives of the Study**

The overall objective of the study was to find out the underlying causes of success and failure of micro-enterprises among the Dalit micro-entrepreneurs. The specific objectives of the study were to:

- analyse the governance of input support to micro-enterprises,
- compare between the Dalit and non-Dalit micro-entrepreneurs in terms of income earned from enterprises operated by them, and
- analyse the underlying causes responsible for success and failure of micro-enterprises operated by Dalit entrepreneurs.

## **2. Review of Literature**

### **2.1 Input Support for Poor in Micro Enterprise Development**

Poor micro-entrepreneurs often have no capabilities to establish and run their business smoothly because they always lack resource (ILO, 2005). Therefore, they need special and direct support for their business, as an enterprise crosses through different stages. An input support encompasses entrepreneurship skill development, technical skill development, and adoption of appropriate technology, linkages with micro credit and marketing (packaging, labeling and branding and market exposures) on a regular basis (MEDEP, 2010). MEDEP has been providing such types of direct support through its Common Facility Centres and other organisations in different names like infrastructure construction support, revolving fund, business startup support, technology support, common property, community building, etc. (MEDEP, 2010).

### **2.2 Micro Enterprise and Income Benefits**

In developing countries, most of the economic activities come from small and micro scale enterprises, and the producers employ 40 to 70 percent labour force and accounts for one-third of domestic product (Todaro, 1997). In Nepal, micro-enterprises have contributed to income benefit among the rural poor and excluded families through generating income and making their livelihood easier than before (Koirala, 2007). Micro-enterprise is one of the most effective ways to lift the families out of poverty in developing countries (Todaro, 1997;

MEDEP, 2010). The poor and Dalit micro-entrepreneurs have been significantly benefited from micro-enterprise in rural areas through generating income and self employment (MEDEP, 2013).

## **2.3 Factors affecting Success and Failure of Micro-enterprises**

The indicators of failure of a micro-enterprise include low demand, lack of planning, no or low access to micro credit, lack of access to appropriate technologies, lack of market and marketing information operational inefficiencies, poor accounting system, poor management, lack of raw materials, low level of education and awareness, inappropriate location of enterprise and low risk bearing capacity (MEDEP, 2010). Tihomola (2010) emphasises on the internal and external factors that affect small and micro-enterprises. Among these, the internal factors include access to market, access to appropriate technology, access to human resources, mismanagement of resources, lack of management skill, lack of qualified work force, laziness, over trading, lack of capacity, and poor costing and pricing. Similarly, the external factors are access to finance, high taxes, expensive inputs, high inflation and interest rate, policy, high competition, etc.

## **3. Research Methodology**

Parbat district, a pioneer district of MEDEP, was selected purposively in order to meet the objectives of the research because of existence of micro-entrepreneurs since 1998. The study basically concentrated on two VDCs of Tilahara Rural Market Centre in Parbat district. Of a total of 184 entrepreneurs present in these two VDCs, 92 (50 percent) of them were selected as the sample respondents.

The study used both primary and secondary sources for information collection. The primary data were collected from the micro-entrepreneur respondents through household surveys, focus group discussion and key informant survey. Similarly, the secondary data were obtained from the relevant books, research reports, journals and articles, academic research and dissertations, and websites. Information, facts and figures taken from the secondary sources were used to support and critically verify and supplement the information inferred in the findings of this study. Presentation of the information in this study was based on a descriptive analysis supported by the household based responses.

## 4. Results and Discussion

### 4.1 Input Support to Micro-entrepreneurs

The MEDEP had provided different kinds of support to micro-entrepreneurs through Business Development Service Provider Organisations as well as association of micro-entrepreneurs operating at settlement level to national level, besides the government mechanisms, on the basis of 6-circle model (social mobilisation, entrepreneurship development, skill development, access to micro credit, appropriate technology, marketing and counseling) – a complete package system. Table 1 presents the details of MEDEP's support to micro-entrepreneurs.

**Table 1: Status of Input Support**

Types of support	N=92	Support Frequency	Total %	Gender/Ethnicity-wise Support			
				DW	DM	NDW	NDM
Skill Training							
Gender awareness		92	100.0	38.0	12.0	25.0	25.0
HIV Aids awareness		92	100.0	38.0	12.0	25.0	25.0
Entrepreneurship							
Entrepreneurship skill tainting		92	100.0	38.0	12.0	25.0	25.0
Skill Training							
Enterprise related skill training		92	100.0	38.0	12.0	25.0	25.0
Micro Credit							
Link ME with micro credit		51	50.0	8.7	5.4	19.6	16.3
Appropriate Technology							
Appropriate technologies		40	43.5	9.8	4.3	15.2	14.1
Marketing							
Market information		66	62.0	16.3	8.7	19.6	17.4
Marketing training		41	44.6	10.9	4.3	16.3	13.0
Exposure visit		35	35.9	5.4	5.4	16.3	8.7
Exhibition participation		27	27.2	3.3	4.3	10.9	8.7
Counseling							
Business counseling		174	189.1	22.8	8.7	108.7	48.9

Source: Field Survey 2012

The respondent entrepreneurs were provided with gender and HIV Aids awareness training along with social mobilisation activities as well as entrepreneurship skill development training to energise them about the enterprise through relevant programmes. The training activities included identification of resources, business plan preparation, competitor analysis, market analysis, financial management, quality and quantity of production, assessment of appropriate technology, etc.

The programme had facilitated the micro-entrepreneurs to link them with the micro finance institutions for obtaining micro credit services. Of 50 percent micro-entrepreneurs having access to micro credit services, a majority of them were non-Dalit micro-entrepreneurs. Only 14.1 percent Dalit micro-entrepreneurs had access to micro credit services. Appropriate technology was another part of the support. About 44.0 percent micro-entrepreneurs were able to get different kinds of appropriate technology supports like ginger processing machine, tunnel for tomato farming, machine for bio-briquette pressing, *Lapsi* processing machine and so on through CFC model on group basis. However, only 14.1 percent Dalit micro-entrepreneurs including men and women had received technological support, which helped them promoting their business.

MEDEP had intensively supported on marketing. Out of 92 respondents, 62 percent received market information, 44.6 percent marketing training, 35.9 percent exposure visit and 27.2 percent participated in exhibition. However, the Dalit micro-entrepreneurs perceived that the support provided to them was not sufficient to operate their business smoothly. Business counseling had helped the entrepreneurs to assess their business whether as right or wrong and to sort out problems with possible solutions. The study indicated that only 24.0 percent had got regular counseling, while 42.4 percent received partial counseling and 33.70 percent did not get any counseling.

## **4.2 Income Benefit from Micro Enterprise to Poor Dalits**

The micro-entrepreneurs had been earning incomes from micro-enterprises. However, there was a significant income variation between Dalit and non-Dalit entrepreneurs, as well as men and women entrepreneurs. In spite of more or less equal support provided by the programme at initial stages as per the requirement, the income gap between the gender and ethnicity groups was

found to be very wide. Table 2 shows the income differences between Dalit and non-Dalit, and between women and men.

**Table 2: Average Annual Income Status**

Particulars	No. of Respondents	Year of operation	Average Annual Income and Profit		
			Sales (Rs)	Expenses (Prod. Cost) Rs.	Profit (Rs.)
Dalit Women	35	8	19,885.0	4,642.9	15,242.1
Dalit Men	11	8	17,931.8	7,386.4	10,545.5
Dalit Total	46		19,417.9	5,298.9	14,119.0
Non Dalit Women	23	8	42,885.2	16,304.3	26,580.8
Non Dalit Men	23	8	34,359.9	13,587.0	20,773.0
Non Dalit total	46		38,622.6	14,945.7	23,676.9
Grand Total	92		29,020.2	10,122.3	18,898.0

Source: Field Survey 2012

The study revealed that the Dalit women's income was still below poverty level and their profit was also so minimal, as compared to Dalit men micro-entrepreneurs. However, there seemed to be more or less equal income and expenditure between non-Dalit men as well as women micro-entrepreneurs. On the other hand, there was a significant income gap between Dalit and non-Dalit micro entrepreneurs (men and women).

## 4.3 Factors of Success and Failure Micro-enterprises

### 4.3.1 Factors contributing to Successful Micro-enterprises

The study indicated that several factors contributed to the success of micro-enterprises. Of 92 respondents, while 64.1 percent of them had high the market demand of their products at the local level, only 8.7 percent had the market demand at regional level. In this regard, only about 14 percent Dalit micro-entrepreneurs had high level of demand at the local market. While about 42.4 percent micro-entrepreneurs had fulfilled the quality and quantity demand of products, only 5.4 percent of Dalit micro-entrepreneurs had fulfilled both the types of demands; thus implying that

the successful entrepreneurs fulfilled both quality and quantity demand of their products as per the requirement.

In terms of raw materials, on the whole, 83.7 percent entrepreneurs did not have problem with access to raw materials, as their enterprises were agro-based on the nature. However, only about 33 percent Dalit micro-entrepreneurs had easy access to raw materials. In contrast, more than 50 percent non-Dalit micro-entrepreneurs had access to raw materials. With regard to access to credit, the successful entrepreneurs (64.1 percent) had access to micro credit. Among them, 14.1 percent were Dalit micro-entrepreneurs and 50 percent were non-Dalit micro-entrepreneurs. This indicates that non-Dalit micro-entrepreneurs were more successful, as compared to Dalit micro-entrepreneurs.

Social participation and relationship form other significant factors that help entrepreneurs for receiving different kinds of support such as loan, technology, skills, and market from the community. Of 92 respondents, 50 percent lacked social participation and relationship. Among the Dalit micro-entrepreneurs with social participation, only 6.5 percent had medium level of participation in social activities. The entrepreneurs with good level of social participation were found to be more successful in their enterprises.

Similarly, those who had easy access to technology appeared to be successful entrepreneurs. Of the total respondents, only 38.0 percent micro-entrepreneurs had access to appropriate technology. Caste wise, only 3.26 Dalit and about 30 percent non-Dalit micro-entrepreneurs had access to technology. Thus, as it appeared, non-Dalit entrepreneurs were more successful than Dalit entrepreneurs. With regard to business plan, only 31.5 percent micro-entrepreneurs had business plans; hence only a small proportion of entrepreneurs could be considered successful. Similarly, most of the entrepreneurs did not keep their written accounts on a regular basis. Among the successful entrepreneurs, only 42.4 percent had maintained their accounts either in written or verbal forms. The entrepreneurship factor also helped the micro-entrepreneurs to become successful. On the whole, about 80 percent successful entrepreneurs had entrepreneurship skills with them.

### **4.3.2 Factors affecting Failure Micro-enterprises**

Several direct and indirect factors seemed to have contributed to failure of enterprises operated by the Dalit and marginalised micro-entrepreneurs. About 59.0 percent micro-entrepreneurs had felt their skills as insufficient for promoting and diversifying their business, while 9.7 percent entrepreneurs felt that they lacked skills related to operating their enterprises. About 16.0 percent entrepreneurs had not received any skill development training related to their business. In the case of raw materials, a majority (60.9 percent) of the entrepreneurs had faced financial problem to acquire raw materials. Only a few (4.4 percent) respondents had faced legal constraint to obtain raw materials; especially the forest based resources.

Regarding micro credit, on the whole, 37.0 percent respondents had felt the high interest rate for obtaining the loan as problem, while 41.3 percent lacked collateral to get the loan and 21.7 percent reported that they faced the problem of lengthy process to obtain the institutional credit. Furthermore, it was found that about 27.0 percent Dalit micro-entrepreneurs had no collateral, whereas only 14.0 percent non-Dalit micro-entrepreneurs were found to be without collateral. The Dalit micro-entrepreneurs were found to be without access to Micro Finance Institutions.

Appropriate technology plays a crucial role in any enterprise to increase production and productivity. In this study, about 13.0 percent respondents were found to be lacking information about technology. Similarly, about 19.0 percent had not acquired technology as per their requirement, while about 68.0 percent respondents said that they did not have money to buy the technology. The Dalit and women entrepreneurs had faced more problems in contrast to the situation of non-Dalit and men entrepreneurs. With regard to market and marketing system, only 14.2 percent (10.9 % Dalit and 3.3 % non-Dalit) had no information about market. On the whole, the entrepreneur respondents who could not meet the quality of their product accounted for 50 percent, while those who could not meet the quantity of their product amounted to 29.4 percent.

One of the reasons for failure of enterprises was 'lack of business plan'. Most (85.9 %) of the entrepreneurs did not have their written business



plan. Only 3.3 percent had the written business plan; however, they did not follow the plan and 10.9 percent entrepreneurs could not prepare their business plan. In order to manage a business, the transaction should be properly maintained. However, the study found that about a majority (65.0%) of the micro-entrepreneurs did not have proper book keeping system, while 14.1 percent micro-entrepreneurs had no training about book keeping. One of the major constraints to success in business was 'lack of proper maintenance of the financial transaction'. On the whole, the factors that contributed adversely to the business among the Dalits included illiteracy, lack of unity, lack of entrepreneurship, practice of caste based discrimination, lack of financial management and business planning, and irregular support from development programmes.

## **5. Conclusion and Recommendations**

### **5.1 Conclusion**

MEDEP provided different forms of support to the poor and low income families with a complete package of enterprise creation and development through its programme and other organisations. However, these supports were perceived to be insufficient by those hardcore poor and socially excluded groups. There was a variation in terms of the income benefits received by the Dalit and non-Dalit micro-entrepreneurs, placing the Dalit as a whole and Dalit women entrepreneurs on the disadvantaged side. Similarly, several internal and external factors contributed to success and failure of the micro-enterprises operated by the Dalit and non-Dalit micro-entrepreneurs. However, the study also indicated a few factors of failure that were relevant to the Dalit micro-entrepreneurs.

### **5.2 Recommendations**

Based on the major results and conclusion outlined above, this research has put forward the following recommendations.

- The support provided to micro-entrepreneurs belonging to hardcore poor, Dalit, women and marginalised group did not seem to be sufficient. Therefore, continuous and intensive support should be provided to these categories of micro-entrepreneurs.

- Economic empowerment leads to other types of empowerment and development of assets like social, cultural, human, natural and physical among the marginalised people. Therefore, micro-enterprise development programmes which are based on local resources and local market as well as demand driven in nature, as initiated by MEDEP, should be replicated by the government, NGOs, INGOs and bilateral organisations to reduce the poverty in Nepal.
- Only a small proportion of Dalits and women micro-entrepreneurs were found to be successful, while others faced numerous constraints. They did not seem to have received adequate support from the programme and other organisations. So the programme should focus on them, and devise special policy and strategy to support them for long-term sustainability of their enterprises.

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# Business Development Services for Sustainable Development of Micro-Enterprises: A Case Study of Nuwakot District<sup>10</sup>

## Abstract

*Government organisations and international/non-government organisations are playing their roles as Business Development Service (BDS) providers in developing micro-enterprises. An empirical research was undertaken to investigate the role of<sup>11</sup> BDS providers in improving the performance of micro-enterprises, with the specific objectives of analysing the current state of micro-entrepreneurs, assessing the impact of Business Development Services, and examining the perceived significance of various BDS providers. The study used semi-structured interview schedule and Focus Group Discussion as instruments for data collection. The statistical analyses included descriptive statistics, Mann-Whitney test and Kruskal Wallis test. The results of the analysis revealed that the BDS support led to positive contribution to the performance and economic growth of the enterprises. The study showed a strong relationship between economic and social well-being of the micro-entrepreneurs being facilitated by BDS support, besides showing a synergistic value of the use of BDS together with micro-credit to perform better, i.e., product diversification and increasing the demand of their products. However, the results also revealed a discrepancy between the micro-entrepreneurs' BDS needs and what the organisations currently delivered.*

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# **1. Introduction**

## **1.1 Background of the Study**

Nepal is experiencing a rapid growth of entrepreneurship due to urbanisation and a relatively small employment market. Micro-enterprises (MEs) perform a vital function in economic and social development of Nepal. MEs also add value to local products and provide essential services at local level. However, sustainable development of MEs cannot be obtained only with financial support services like credit. They should be provided with other services such as business management skill development trainings, often called as Business Development Service, to manage and utilise the credit in an effective and efficient manner; advice on new product development as per market demand; information and support regarding new technology for product innovation and diversification, and market linkages to sell their product at competitive price. Till date, BDS in Nepal is being provided by the public sector and in some cases in collaboration with the private sector for ME's growth and development (Wolfe and Page, 2008). ME development has been cited as an important development strategy in the Nepal Government's Tenth Plan 2002- 2007 (NPC, 2003). In the past, even if they were able to start their new venture with the credit from Micro Finance Institutions (MFIs), they were not able to sustain it after few years because of the product failures, cost additions, and lack of supply of adequate raw materials at low prices. This was because of lack of business skills and advice, primitive methods of production, poor market linkages and market information. This implies that stimulating Business Development Service (BDS) can contribute to the profitability and value creation of MEs.

## **1.2 Statement of the Problem**

In Nepal, BDS is being provided to MEs through public and private partnership or through stand-alone programme of the government of Nepal. Among various such programmes, MEDEP is one of them which have received national recognition and the model has been considered for replication (UNDP, 2011). MEDEP has been providing financial and non-financial support services to the poor and excluded communities to improve their livelihood by creating various income generating opportunities through skill development training, and support to establish small business enterprises. The other institutions providing BDSs

are the Department of Cottage and Small Industry and the Cottage and Small Industries Development Board (MEDEP, 2006). Given that BDS delivered to MEs can lead to employment generation, innovation and adding value to goods and services, and flexibility in responding to dynamic markets, this study was designed to look into if the government and NGO intervention efforts in the form of BDSs are helping to create employment through new enterprise creation and raise income level by sustainable development of these MEs in Nuwakot district. Furthermore, very little research has been done on this issue.

### **1.3 Objectives of the Study**

The broad aim of the study was to analyse the role of business development services provided to micro-entrepreneurs in economic development and employment generation of the rural people. The specific objectives were as follows.

- analyse the current state of micro-entrepreneurs,
- assess the impact of Business Development Services, and
- examine the perceived significance of various BDS.

## **2. Literature Review**

### **2.1 Concept of Micro-Enterprises**

Micro-enterprise development is a strategy to help low-income individuals achieve economic self-sufficiency. Micro-enterprises cut across gender, and experiences have shown that they play a major role in income and employment generation (Julius, 2003). Micro-enterprise is a very small business that produces goods and services for cash income. According to Thapa (2007), a micro-enterprise focuses on the assets of the poor, rather than on their deficits and strives to empower citizens to become economically self-sustained. In Nepal, the growth of MEs resulted from the growth of private sector after the economic liberalisation during the 1990s. The importance of micro-enterprises including home-based work in terms of contributing to job creation and output growth is now widely accepted in both developing and least developed countries like Nepal. In Nepal, there is a lack of logical micro and small enterprise

development strategies, which take into account the three dimensions of enterprise evolution (start up, survival and growth).

## **2.2 Significance of Micro-enterprises in Economic Growth**

MEs play a significant role in the economic development of every nation, particularly in developing countries. The development of MEs is seen globally as a key strategy for economic growth, job creation and poverty reduction. MEs create new jobs, introduce innovative products and services, open up foreign markets, and act as agents of economic and social development in rural areas (Berry *et al.*, 2002). In the United States of America, micro-enterprises are believed to be the most viable source of sustainable employment creation. According to the Global Entrepreneurship Monitor (GEM) survey in the USA in 2003, more than 70 percent of people currently involved in a start-up or in managing a new business employ at least one person (Minniti and Bygrave, 2004). Similarly, Davis and Haltiwanger (2000) and Bruce *et al.* (2007) found that an increase in the birth of MEs by 5 percent results in 4.65 percent growth in the economy of the USA. Furthermore, the impact of MEs in various economies in terms of employment generation and raising income level proves that, MEs though they operate in informal sector, it helps to boost country's economy (Herrington *et al.*, 2009).

## **2.3 BDS as a Mechanism for Enterprise Development**

BDS refers to the non-financial services including training; technical and managerial assistance; developing, adapting and promoting new technology; assessing markets; giving marketing support; providing a physical infrastructure and advocating policy for ME (Kapila and Mead, 2002). The small-scale enterprises would prosper if they are supported by BDSs focusing on the peculiar problems of MEs. Besides credit facilities, BDS has been identified as an important tool for reducing constraints and facilitating sustainable development of MEs. They focus on the opportunity for many micro-entrepreneurs, who are still limited to primary production and to move into higher-value processing or manufacturing (van Bussel, 1998).

To some degree, the limited size and weakness of the indigenous private sector in many developing countries and economies in transition can be attributed

to a lack of entrepreneurship and ability to respond effectively to business opportunities (Miehlbradt, 2001). This seriously inhibits the survival and growth of MEs. Even where entrepreneurs in these countries may be able to identify business opportunities, they are often not able to take advantage of them due to a lack of appropriate skills and knowledge. Such skill and information gaps can be overcome through properly targeted BDSs, which may include information by direct contact and publication or referral; general business counselling with regard to such issues such as management training and specialised advisory services like market research; facilitation of business linkages, technology acquisition and use; loan packaging and the preparation of business plans; and enterprise restructuring and expansion (Green, 2003). In order for MEs to grow or even survive there is a dire need of BDS. The International Finance Corporation (2006) also argues that Business Development Services (BDS) are important because they can assist entrepreneurs to run their businesses more effectively. The primary focus of BDS provision is to facilitate skills transfer and provide business advice, which are important in helping small business or emerging entrepreneurs to develop their business ideas into viable business enterprises (Pietrobelli and Rabellotti, 2002). Internationally, the field of business support has been growing alongside the ME development process (IFC, 2006).

### **3. Research Methodology**

This is an exploratory type of research conducted in Nuwakot district of Nepal. It has explored the relationship between operational and strategic BDS (independent variable) with the growth and sustainability (dependent variable) of micro-enterprises. The research population included the micro-entrepreneurs of Nuwakot district. All together, 150 micro-enterprises from 7 towns and villages of Nuwakot, Ratmate, Devighat, Battar, Bidur, Trishuli, Dhikure and Kakani were selected as sample units. The primary data were acquired from the sample micro-entrepreneurs. Three public BDS providers, namely, (i) District Micro-entrepreneurs Group Association, (ii) Community for Business Development Promotion Society and (iii) Cottage and Small Industries Development Board were considered for the purpose of the study. These organisations are supported by MEDEP for delivering BDS to the micro-entrepreneurs.



In order to ensure the validity of this study, it used many sources of evidence, interviews and documents to collect data, in addition to pre-testing the research instrument. Three types of primary data collection methods were used in this research, i.e., face-to-face interview, interview schedules and focus group discussion; thus ensuring the reliability of the work. The data collected were analysed both electronically and manually using descriptive statistics, Chi-Square test and Mann-Whitney and Kruskal-Wallis tests.

## **4. Results and Discussion**

### **4.1 Current State of Micro-entrepreneurs in Nuwakot District**

Out of 150 micro-entrepreneurs selected for the study, 80 were found to be engaged in farm-based business and 70 were identified as being involved in non-farm business. This explains that a majority of the respondents were involved in agriculture, forestry and animal husbandry related enterprises. Regarding the economic profile, the average experience of the respondents in business was 7.4 years, and the average duration of operating the current business ranged 7 to 9 years. Most respondents had only one new start-up enterprise with an average of 3.55 staff members. The respondents had been managing to produce at least two diversified products. Most respondents had a low network base with external firms. With regard to change in demand of products, on an average, all the respondents had experienced a slight increase in the demand of products, as compared to significant change, seasonal change and/or no change. Pertaining to the monthly family income, on an average, most respondents earned between NRs. 5,000 and 15,000. With regard to saving, out of 150 respondents, 124 of them had savings from their business, whereas the earning of 26 respondents was found to be hardly enough to meet their immediate needs. A majority of respondents, who used both BDS and credit, were catering to the local market. On the other hand, only 12 percent of them had been producing for international market.

### **4.2 Utility of Various BDSs to Micro-entrepreneurs**

There were significant numbers of respondents who used both BDS and credit in all types of market catered. With regard to local market catered, the analysis



showed that there was a significant difference among the three categories of respondents, who used BDS and credit jointly, BBS and credit singly. There were significant numbers of respondents catering to local market, who have undertaken BDS and credit jointly. Same was the case with the respondents catering to international market. There existed significant difference among the three categories of respondents, and a large number of them were from the category undertaking BDS and credit jointly. It could be noted that the respondents who had used the service support were depended upon the type of market they catered.

The study also found significant differences among the three categories of respondents on the basis of production of diversified products. Of the 150 respondents, 83 (55.3%) of them were able to produce diversified products. Again, of this category of respondents, a majority (69%) of them had used both BDS and credit. The case resembles with another economic variable, i.e., change in demand of products. Similarly, the analysis showed significant differences among the three categories of users. The respondents who had used both BDS and credit jointly experienced significant and/or slight change in the demand of products. Among seven economic variables, only two, i.e., product diversification and change in demand of the products were influenced by the type of support services taken by the respondents. The results of the analysis showed that the respondents who took BDS and credit together were capable of diversifying their products and experienced a positive change in demand of their products.

### **4.3 Impact of Business Development Services**

The impacts of BDS on the performance of micro-enterprises and subsequently on the lives of micro-entrepreneurs was analysed using Mann-Whitney U test and Kruskal-Wallis test. Mann-Whitney test was used to show association between ten BDSs and increment in number of employees, BDS and saving, BDS and start-up of another business. Similarly, Kruskal-Wallis test was used to investigate association between ten listed BDSs and increment in monthly family income, BDS and increment in annual profit margin as well as BDS change in demand of products. The Mann-Whitney test showed that there was a significant difference between the growth indicator, i.e., increment in number of employees and BDS- product diversification. This indicated that the

respondents, who had undertaken BDS for product diversification, experienced an increment in the number of employees. This implies that more human resource is required to perform a separate or additional task, or a new skill is needed to perform the task of diverse nature that is required for diversification of the product. Further, the results showed no significant difference between any of the business development services undertaken and other growth indicators.

The result of Kruskal-Wallis test showed a significant difference between the growth indicators, i.e., increment in monthly family income and product diversification. This explains that the respondents undertaking product diversification as a BDS had experienced an increase in monthly family income. With regards to another growth indicator, i.e., increment in annual profit margin, three business development services demonstrated an impact on the annual profit margin of the enterprise. Similarly, the product design and development also had significant difference, with an increment in the annual profit margin. This indicates that the product design and development have positive impacts on the profit margin. Products are designed and developed keeping in mind the customers' choice and market demand; thus, it tends to sell more in the market and leads to an increase in the profit margin of the enterprise.

Similarly, there was a significant difference between acquisition and adoption of new technology with an increment in the profit margin. This explains that the use of new and innovative technology helped in achieving efficiency in production process; achieving high volume of production in less time, maximum utilisation of inputs existed, reducing cost of production and improving the quality of product. These factors led to an increase in the profit margin of the enterprise. Additionally, the product diversification as a BDS led to increment in the annual profit margin of the respondents' enterprises. There was a significant difference between the product diversification as a BDS and increment in the annual profit margin. Besides the economic impact, BDS also had a social impact on the micro-entrepreneurs; they were respected for being self-employed as well as creating employment for others. As BDS helped flourish their business, the women became independent as they run their own business and take part in decision making.

#### **4.4 Perceived Significance of Various BDSs**

The results of the study showed that, among various BDSs received by the respondent micro-entrepreneurs, the training was ranked as highest in terms of being most beneficial BDS, as it was found to be beneficial throughout the life of an enterprise, i.e., from the start-up to up-scaling. This is because training is necessary to develop technical and entrepreneurial skills in the start-up phase of an enterprise and to learn new skills; be it adapting to new technology for business process up-gradation or new technical skills for product diversification. In addition, it is also a requisite for personal development like improvement of social skills; learning how to deal with customers and other stakeholders. Other BDSs such as acquisition of new technology and product diversification were also considered among the top three (out of ten), and perceived as being most beneficial BDSs by the respondents. While, new technology increases efficiency, supports mass production and improves the quality of products, it also facilitates product diversification. Similarly, diversified products have more utility, are attractive and their byproducts (from the main product) which otherwise would have gone waste are used. Diversified products are sometimes of high-value products and have more demand even in international markets.

### **5. Conclusion**

The BDSs have produced positive impact on the performance of micro-enterprises. Various BDSs have made impacts such as increment in the number of employees, increment in monthly family income, increment in annual profit margin of the enterprise and positive change in demand of products. Though the micro-entrepreneurs have been benefitted by the delivery of various kinds of BDSs, the results also revealed a discrepancy between the micro-entrepreneurs' BDS needs and what the organisations currently delivered.

The study showed a strong relationship between economic and social well-being of the micro-entrepreneurs being facilitated by BDS support, besides showing a synergistic value of the use of BDS together with microcredit to perform better, in terms of product diversification and increasing the demand of their products. The respondents perceived 'training' as being the most beneficial component of BDS, which is required for technical as well as entrepreneurial skill development at various levels of micro-enterprise growth.

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# **Development and Commercialisation of Appropriate Irrigation Technology with Refinement and Field Testing in Kamala Riverbeds of Siraha and Dhanusha<sup>12</sup>**

## **1. Introduction**

Since 1998, the government of Nepal with the support from United Nations Development Programme (UNDP) has been implementing Micro-enterprise Development Programme (MEDEP) in various districts of Nepal. The main aim of MEDEP is to alleviate poverty among the women, poor and excluded groups by creating self-employment opportunities through development of agro-based, forest-based, tourism based enterprises and services. The Ministry of Industry (Mol) is the executing agency of the programme. By now the programme has reached over 36 districts of the country. MEDEP is one of the main programmes involved in the research, development and dissemination of riverbed farming (RbF) targeting the poor and disadvantaged population.

Some studies have indicated that, on an average, farmers are making net income of over NRs. 25,000 from 3-4 kattha (30 kattha = 1 hectare) of riverbed farm-land through the sales of vegetables, primarily watermelon, squash and others. As the farming technique is labour intensive, it is particularly suited to the landless and land-poor households whose livelihood is mainly dependent on the wage-labour. RbF is one the emerging enterprises in the *Terai* area of Nepal. More than 900 farmers have received support from MEDEP to grow high value crops in the river bed field. Some other organisations/ programmes

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12 Study conducted by MEDEP with technical support from Horticulture Enterprise and Research Centre, 2013

are also involved in similar activities. To promote the RbF in a wider scale, the major organisations associated with RbF programme have created an alliance named as “Riverbed Farming Alliance”. The alliance is now facilitating to develop a National Policy that would support the RbF activities. The ongoing Agriculture Development Strategy (ADS) preparation has also indicated the need for promotion of RbF.

RbF includes a range of activities from land selection/preparation to marketing of the products. The value chain of the systems broadly consists of i) Input Supply Chain ii) Crop Production and iii) Marketing. For a successful enterprise, development of each of these components should function satisfactorily. MEDEP has identified appropriate irrigation and knowledge on high value crop production technologies as two major gaps in its programme. Although the riverbed farms are close to the rivers, often the farms are located relatively far from the flowing water. The problem is more severe in the case of river banks. Due to the threat of flood, farmers are not willing to put any permanent irrigation systems even if the ground water is shallow in many cases. Where the water table is very shallow, the farmers dig a pit and lift the water manually with buckets and apply to the plants. In other cases, they go to the river to fetch the water. These activities are highly labour intensive and hard-task in the hot summer. Some farmers rent in diesel pump-sets and use flood irrigation, which is costly and has very poor water application efficiency due to very high percolation losses. In this context, the irrigation technology which is low cost reduces the drudgery and has good application efficiency. Lack of appropriate irrigation technology is also a limitation to cultivate in the larger area. RbF practice is basically a technology transfer from Indian boarder from farmers to farmers. Although the government programmes have recently initiated to provide extension support, it is largely inadequate. A large number of farmers still lack adequate knowledge and skills on the agricultural practices of the crop management under riverbed farming, which includes selection of proper seeds, nursery/seeding techniques and other agricultural operations. The gap is especially among the new farmers. Selection of proper crop and variety is yet another important gap among the river bed growers. This calls for a need for a crop calendar and practical handbook for farmers.

In order to address the problem associated with irrigation, MEDEP through consultants had earlier on undertaken an action research entitled “**Participatory**

***Action Research on small and low cost irrigation technologies in river bed farming***” in the riverbeds of Babai and Kamala rivers located in Bardiya and Siraha districts respectively. On the basis of field assessment, the team designed five types of irrigation systems and subsequently installed in the field, with the participation of the beneficiary farmers. Feedback was collected from the farmers. The feedback received from the farmers indicated a need to further reduce the cost of the system as well as the weight of the technology. Another suggestion received was to design the pump with some pressure at the outlet and provide training on the agriculture aspects of crop production.

After field testing of the irrigation systems, the study team recommended to refine the design and test more alternatives to suit to the need and resources of the farmer entrepreneurs. Given the low level of knowledge on the crop production, MEDEP also intended to develop and assess the current level of knowledge and suggest recommendations to enhance their technical capability on the crop production. Broadly, the present assignment has two parts: i) Refinement and testing of appropriate irrigation technologies and ii) Prepare crop calendar and training curriculum / crop calendar for the farmers. The ultimate goal is to commercialise the irrigation products through supply chain development, and impart training to the local technicians.

This study was carried out to assess the development and commercialisation of Appropriate Irrigation Technology with Refinement and Field Testing in the riverbed farms of MEDEP working areas along the Kamala River in Siraha and Dhanusha districts. The main objective of the present research was to test and refine irrigation technology developed from the earlier research, prepare a handbook on improved RbF practice and develop local capacity on production and distribution of appropriate irrigation systems including high value crop production.

## **2. Methodology**

The methodological approaches adopted to accomplish the study included: i) Assessment of the Problem ii) Action and iii) Evaluation. In line with these approaches, the study team carried out consultation meetings, document review and field visits. Reference materials were collected from various sources, i.e., MEDEP, HELVETAS and the website of Riverbed Alliance. Additional materials



were obtained from Internet browsing. With the support from MEDEP, the study team also communicated with the staff of concerned Area Production Support Offices (APSO) and District Micro Entrepreneurs Groups Association (DMEGA).

In the field, the team held meetings with DMEGA of Dhanusha and Siraha to learn the status of riverbed farming and associated relevant needs and constraints of the entrepreneurs. The team also visited District Agriculture Development Office (DADO) in Dhanusha to learn the overall situation of RbF within the district. With the support from the APSOs and DMEGA staff, the study team visited the sites like Bhokraha VDC of Siraha and ii) Raghunathpur VDC and Dhol Bazaar *tole* of Dhanusha. Interaction meetings were held with the entrepreneurs. Crop and irrigation situation were discussed at length. Then the procured irrigation systems were installed in full participation of the user farmers. Local technicians were provided with training on installation and operation. After the first field visit, Draft Guidelines and Crop Calendars were prepared, and they were tested during the second field visit. The team also studied the value chain of the major river bed crops to analyse the constraints and opportunities in the marketing of crops produced from the river bed farms. The study team consisted of the Team leader and a Horticulture expert. They were supported by an agriculture officer and two irrigation technicians.

### **3. Study Findings**

#### **3.1 Riverbed Farming in Nepal**

Riverbed farming means cultivation of crops on the bed or bank of the river during the dry seasons. The enterprise is becoming a promising alternative of income generation among the landless and land-poor households of the *Terai* area of Nepal. Although the history of riverbed farming practice dates back to several decades, its utilisation in wider scale is a relatively recent phenomenon. Main reasons for increasing the trend of RbF are: fertile soil for some crops like melon, squash, easy availability of land, access to transport connectivity, etc. It is estimated that nearly 150,000 hectares of land in Nepal is in the form of river bed/bank with good potentials for riverbed farming. Earlier, the RbF was practiced by the local farmers using their own knowledge, skill



and investment. In recent years, some organisations have been providing their support in this endeavor. There exists an alliance of some organisations involved in the riverbed farming activities. The Government of Nepal has drafted a national policy on the riverbed farming. Some studies have indicated that, on an average, farmers are making a net income of over NRs. 25,000 from 3 - 4 *kattha* of riverbed land through the sales of vegetables primarily water melon, squash and others. As the farming technique is labour intensive, it is particularly suited to the landless and land-poor households whose livelihood is mainly dependent on the wage labour.

The dry riverbeds can be used by the landless and land-poor households to cultivate fresh vegetables. The potential of riverbed farming is still very significant in the entire *Terai* region. Appropriate cultivation techniques will allow the households to sell fresh produces in the market at the time when supply of vegetables from regional agriculture is low. It enables the families to generate an income which will lift them well above the poverty line.

### 3.2 Information about the Study Sites

There are a number of rivers in Siraha and Dhanusha districts which leave dry sandy bed during 8 months of the year. The Kamala River is one such river in this area. The Kamala originates from Mahabharat Range near Sindhuliagadhi in Sindhuli district of Nepal at an elevation of 1,200 metres (3,900 ft). It flows in a southerly direction and after passing through a gorge above Chauphat, it flows into Chisapani area of the Terai. The Kamala River forms the border between Siraha and Dhanusha districts. It is estimated that there is a potential for riverbed farming in more than 10,000 hectares land along the Kamala River.

**Socio-economic Situation:** Under the MEDEP programme, 220 and 38 households are involved in the Rbf in the three VDCs of Siraha and Dhanusha districts respectively. It was learned that at least 700 farmers including 200 supported by MEDEP have been growing crops on the riverbeds/banks of Kamala River in the MEDEP programme VDCs, i.e., Bhokraha and Chikna. A majority of them are disadvantaged landless or land-poor families from different ethnic groups (Sapai, Mandal, Kamat, Sada, Kapar, Raut, Kamat, Rain, Thadiya, Yadav, etc.). In Siraha, the RbF programme is running in the 4<sup>th</sup> year, whereas in Dhanusha it was started just last year.

The average family size of the riverbed farmers is 6.5, with a range of 3 to 10 members per family. A majority of the farmers are landless and land-poor. Farmers' land was prepared from last week of Kartik (around mid-November) and left the river bed since the first week of Asadh (around 3<sup>rd</sup> week of June). An individual family earned on an average NRs 30,000 per season. According to the farmers, they spent their earning in education, family health, daily expenses, and some farmers, who are involved in saving, deposited their earning in micro finance schemes.

**Crops:** The average cultivated area of RbF is 4 Kattha. The major crops selected and grown by the farmers included water melon (*Citrullus lanatus* T.), cucumber (*Cucumis stivus* L.), bottlegourd (*Lagenaria siceraria* S.), summer squash (*Cucurbita pepo* L.), bitter gourd (*Momordica charantia* L.), pumpkin (*Cucurbita moschata* D.), pointed gourd (*Trichosanthes dioica* R.) and sponge gourd (*Luffa cylindrica* R.). Water melon occupied about 90 percent of the total cultivated riverbeds. MEDEP has been conducting the programme through creation of district based NGOs named as District Micro-Entrepreneurs' Group Association (DMEGA). Currently, the RbF programme is operational in Bhokraha and Chikna VDCs of Siraha district and Raghunathpur VDC of Dhanusha district. At the field level, the programme is being implemented through cooperatives and local groups.

The most dominant crop in the RbF is watermelon. Almost all farmers buy seeds from Jayanagar, India. The farm produces are sold at local market including *Haat* bazaar as well as distant market (Mirchaya of Siraha district). The practice of selling at the farm is rare. Women farmers play a major role in agricultural activities both at the input and output levels. Women are mostly involved in marketing at the local market, whereas male members take this role if the product is to be taken to the distant markets. Red pumpkin beetles, cutworms and spotted beetles were the major insect pests found in the riverbed crops. In some cases, viral diseases were also found. There is also a threat of damaging the crops by wild animals.

**Irrigation:** According to the riverbed cultivators, a total of 14 irrigations are required for river bed crops, and they are broadly divided into 3 stages of irrigation, i.e., germination, vegetative growth and flowering/fruit setting stages). The most critical one is the third stage when watering is required at an interval

of 3 days. About 10 litres of water per plant is to be provided per irrigation for optimal growth. Irrigation in the first and second stages was found to be less of a problem.

In Siraha, the common irrigation practice is to bring water from the local pits and river. Every part of the farm is not favourable for this irrigation. The pit needs frequent maintenance, as it collapses. Similarly, for many growers, the river water is a bit far from the farm. MEDEP provided two diesel pump-sets (one each per VDC) for irrigation. While the performance in Chikna is satisfactory, it is not in use in Bhokraha due to technical and management problem. Some farmers are renting in pumpsets from Dhanusha to irrigate during the critical stages. However, availability of pump sets at peak irrigation season is difficult even if one is ready to pay the rental fee. Last year, MEDEP conducted participatory action research programme on appropriate irrigation in the RbF. A total of 4 open wells with portable treadle pump and plastic-lined pits were set up. One pump was shared by more than 4 farmers for irrigating about 10 kattha lands. However, the pumps and wells were not maintained properly.

In Dhanusha, the farm is not on the riverbed, but on the river bank. At one edge of the farm, the River water is close to the point where the water is flowing even during dry months. The river water level is approximately 15 ft down from the farm. On the other edge, there is a narrow drain/gully where the water table is less than two metres from the ground and about 10 ft from the farm (vertical height).

A few farmers in Siraha had preference for Diesel pump sets over manual methods. However, their plot size is above 8 kattha. Small growers on the other hand were in favour of small manually operated pump, as its capacity would be adequate for their plots. In Dhanusha, a large majority of the growers were in favour of manually operated pumps rather than the mechanised ones. Here, the average plot size is 3 kattha.

### **3.3 Irrigation Technologies for Riverbed**

#### **3.3.1 Design of Irrigation Systems**

Based on the field assessment and lessons learned from the PAR of the previous year, initially, 10 types of irrigation systems were identified

and provisionally selected. After further screening, the following five technologies were finally selected.

- i) Rope and Washer Pump
- ii) Bamboo Treadle Pump with dual outlets
- iii) Portable Treadle Pump
- iv) Pressure Hand Pump and
- v) Narrow Open Well

The manufacturing of these irrigation systems were done by *Thapa Mold and Dies* in Kathmandu, *New Thapa Engineering* in Bhairahawa and *Sharma Foot Pump* in Lahan Siraha. The pressure hand pumps were brought from Rupaidiha, India. After basic testing of the systems, they were procured to the sites. The main technical features of the abovementioned technologies are given in Table 1.

**Table 1: Technical Features of Technologies**

S. N.	Technology Name	Suction Depth	Average discharge	* Total Cost of installation (Rs)	**Irrigated Area (Sqm)	Suitable conditions
1.	Rope and Washer Pump	40-60 ft	0.2-0.4 lps	12000-20000	700-1700	Open well River
2.	Bamboo Treadle Pump with dual outlets	Upto 25 ft	0.5-0.8 lps	6000-10000	1000-1700	Tubewell Open well
3.	Portable Treadle Pump	10-20 ft	1-1.6 lps	12000-15000	1700-2700	Open well River, Tubewell
4.	Pressure Hand Pump	Suction: 20 Ft, Delivery: 15 ft	0.25-0.35 lps	10000-12000	700-1000	Open well, River, tubewell

\* Cost includes water source development (Openwell/tubewell) and 20 metre of delivery hose and is based on 2013 market price.

\*\* On sharing basis the area of irrigation can be at least double.

### 3.3.2 Installation of Irrigation Systems

A total of nine irrigation systems were installed in two sites. Their details

are given in Table 2. The technical training on the installation and operation of the pumps was provided to six local persons.

**Table 2: Types of Irrigation Systems Installed in Two Sites**

S. N.	Technology Name	Water Source	No. of Systems		Total
			Bokhara, Siraha	Raghunathpur, Dhanusha	
1	Rope and Washer Pump	Open well and River	2	1	3
2	Bamboo Treadle Pump with dual outlets	Open well and River	-	2	2
3	Portable Treadle Pump	Open well and River	-	1	1
4	Pressure Hand Pump	Open well and River	1	1	2
5	Narrow open well (Framework support, Addition of Rings in the existing well)	Open well and River	1	-	1
<b>Total</b>					<b>9</b>

The immediate feedback collected from the users showed that the Pressure Hand pump appeared to be the best among others due to its easy portability and installation. In Dhanusha, the Bamboo Treadle Pump with dual outlet was perceived as the best. The choice for this pump was obvious, since there was a very minimum threat of flood in the site; thus can be installed in the permanent tube-well. Here, the reaction related to the Jumbo Treadle Pump was also found good, but it was regarded a bit hard to operate (25 ft deep tube-well). As regards to the Rope and washer pump, the response was mixed. For example, it is very easy to operate but cannot be installed in the tubewell and requires open-well. Compared to other technologies, it is not easily portable. However, it was regarded as 'good' in terms of easy water extraction especially in the riverbeds where the water table is quite shallow.

It was learned that there was immediate demand for 100 Hand Pressure Pumps in Siraha site, where the test drilling in the river bank was also found successful. In Dhanusha site, the groups decided to order 11 Bamboo Treadle Pumps and 2 Hand Pressure Pumps.

### 3.3.3 Input Supply Chain System of Irrigation System

The Bamboo Treadle Pump and Narrow concrete rings were manufactured by *Sharma Agro Tools and Engineering (SATE) Workshop* in Lahan. The company is linked with two Hardware shops of Raghunathpur in Dhanusha. The Company's representative has also contacted the concrete ring manufacturers of Bhokraha in Siraha. The Assistant Manager of *Thapa Mold and Dies (TMD)* of Kathmandu visited together with the study team, and provided technical training on the Rope-Washer Pump installation. The TMD representative has also discussed with SATE representative to take the wholeseller/distributor's role depending on the demand for Rope-washer pump. As regards to 5" Jumbo Portable Pump, the producer is in Bhairahawa, Rupendehi. The local dealers can approach the company for the supply of pumps and establishing commercial links. In the case of Hand pumps, there are two alternatives for local supply: i) contact importers in Nepaljung, Banke and ii) search for availability with quality and cost and regular supply with the hardwares of Janakpur and Lahan that can import from the nearest Indian markets (e.g., Jayanagar).

## 3.4 Seasonal Calendar of Riverbed Farming

The study team also prepared a seasonal crop-calendar of Riverbed farming for Kamala Riverbed in Siraha and Dhanusha districts (Table 3).

**Table 3: Seasonal Crop Calendar for Riverbed farming**

Name of crops	Magha	Phagun	Chaitra	Baisakh	Jestha
Water melon, cucumber, Bottlegourd, Summer squash, Bitter gourd, Pumpkin, Sponge gourd, Pointed gourd	Direct sowing in nursery	Seedling transplanting	Intercultural operation	Harvesting	Harvesting

## 4. Conclusions and Recommendations

### 4.1 Conclusions

There is a vast scope of enhancing the present level of crop productivity and incomes through intensification and diversification of crops. Similarly, there exists high potential in both the sites to expand the area under river bed/bank farming. However, there is a strong need to further strengthening of enterprenuers' organisations (group, cooperatives) especially in the Siraha site. The District Agriculture Development Office Dhanusha indicated that the RbF is in practice in more than 12 VDCs of Dhanusha, where more than 3000 farmers are involved in RbF. Similarly, it was learned that in the Siraha site of Kamala River, more than 1500 farmers were engaged in this business. However, no systematic study has been done so far to get this information. It can be assumed that the appropriate irrigation will find a good demand in these areas as well.

Although, the existing entrepreneurs are highly motivated towards RbF, most of them lack knowledge on the improved farming practices such as seed selection, nursery establishment, application of agro inputs and methods of plant protection techniques. Therefore, the need for technical capacity building on the crop production appeared as another important finding of the research. The groups need agronomic support in terms of training and follow up of the riverbed crops.

The need for appropriate irrigation was found obvious, as the land area operated by most of the RbF enterprenuers is small (2 - 5 kattha). The best solution to irrigation is manual technologies as designed and installed under the present research study. Within the riverbed area, there is a variation of sub-surface hydrogeology (aquifer, water table) and land types. Some parts are perfectly riverbed, while some are river banks (Dhanusha site) and others are in between. In such a situation, all four types of irrigation technologies may be appropriate in certain set of field conditions. For example, Hand Pressure Pump is more appropriate for the river banks. On the other hand, Jumbo Portable Treadle pump is more suitable for the river beds. Bamboo Treadle Pump is the best alternative for the river banks, if the sludger well drilling is found feasible.

The supply chain of the irrigation in the sites does not require much effort, since both the sites are accessible by motor roads. In the Dhanusha site, there exist some hardware shops, and tubewell/open-well items are available. Finding the local well drillers is also not a difficult task. However, certain activities are required to establish sustainable supply chain of the irrigation systems which include: (i) establishing commercial linkage between manufacturers/wholesellers and local dealers, (ii) providing a systematic technical training on the installations of the technologies, and iii) ensuring availability of spare parts locally.

## **4.2 Recommendations**

The present study has explored the fact that the selected irrigation techniques are highly applicable for riverbed/bank farming. Based on the finding of this study, the following recommendations are made for sustainability and improvement of the productivity of crops in riverbed area of the Kamala River:

- Develop a package of training which includes both the irrigation technology and good cultivation practices of possible high value crops. As much as possible, the training should be practical with the provision of using standard tools and techniques.
- Create awareness about the benefit of the RbF and provide information on the availability of irrigation technologies (demand side). At the same time, facilitate to strengthen the supply chain through communications, visit to manufacturers, monitoring and organising meetings/workshops.
- In coordination with the line agencies, carry out systematic studies on the existing and potential areas for riverbed farming.
- Conduct further PAR on the cost effective solutions on the well drilling. Test the alternative drilling techniques at different representative locations.

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# Effect of Community Managed Agro Eco-Tourism Enterprises on Poverty Alleviation<sup>13</sup>

## 1. Introduction

The Micro-Enterprise Development Programme (MEDEP) initiated by the Government of Nepal (GON) and United Nation Development Programme (UNDP) has been in operation since 1998 covering 38 districts of Nepal. Various independent studies related to MEDEP have consistently shown that the MEDEP's approach and modality are viable strategies for (self) employment generation and enhancing the sustainable livelihoods of the poor. Among different sectors of MEDEP promoted enterprises in practice, tourism based enterprise is one of them that also includes ecotourism and nature trekking. Ecotourism started in Nepal with the conservation projects like Annapurana Conservation Area Project (ACAP) in the early 80s and in other protected areas mainly Sagarmatha National Park and Chitwan National Park. In Nepal, 16 protected areas covering a total land mass of about 18.3 percent have been established. Of 16 protected areas, there are 9 national parks, 3 wildlife reserves, 3 conservation areas, and 1 hunting reserve. A large portion of tourism in developing countries constitutes eco based tourism, especially in protected areas. Tourism in such areas offers the local communities with some economic opportunities, while also maintaining a healthy natural environment.

'Tourists are concerned about benefiting local poor people; however they are often not aware of what is appropriate for poor people to undertake and

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13 Study conducted by MEDEP with technical support from Horticulture Enterprise and Research Centre, 2013

what they can do to help' (Saville, 2001). MEDEP, thus, developed strategies for promoting community-led ecotourism based integrated micro-enterprise development as poverty reduction strategies. The strategies focus on integrated and demand-driven enterprise development model that also emphasise local socio-economic development, sustainable use of natural resources, and respect for local cultures.

MEDEP initiated Eco-Trekking routes in Parbat, Baglung and Myagdi districts in partnerships with Nepal Tourism Board (NTB), Trekking Agencies Associations of Nepal (TAAN) and the local communities since 2009. MEDEP emphasised on integrated micro-enterprise development to maximise a wide range of employment opportunities for the poor and excluded, as this strategy was reported successful in other countries. Therefore, this study was conducted with the main objective of assessing the effectiveness of community-led ecotourism based integrated micro-enterprise development on poverty alleviation in Myagdi, Baglung and Parbat districts. The specific objectives were as follows:

- to assess the effects of community managed ecotourism on the rural economy, the local culture and society, the environment and women empowerment
- to describe the overall local people's perceptions on community managed eco trail
- to delineate the situation of MEDEP supported other project, and
- to assess the effect of MEDEP supported project on local economy

## **2. Study Methodology**

This study was based on the primary and secondary data. The primary data were collected, during 10-day intensive field visit to major destinations of eco-trekking routes in Parbat, Baglung and Myagdi districts, from the tourists, local people and the local entrepreneurs. During the field visit, questionnaire survey, direct observation and interview, photographic documentation and interaction with key informants were carried out. The key informants included the local representatives, local school teachers and representatives from different district level government offices. The secondary data were obtained from the

review of the documents, reports and other relevant materials provided by the MEDEP and other sources. Similarly World Wide Web (www) was also used.

A survey was conducted among different groups of people such as home-stay owners, community lodge operators, farmers and youths. Group discussion was also held with major stakeholders. For agriculture based enterprises, about 149 farmers and entrepreneurs participated in the group discussion. Besides, 32 entrepreneurs and farmers were interviewed with a questionnaire. Similarly, 10 young mothers who moved to Beni for their children's education were interviewed.

### **3. Study Findings**

#### **3.1 Effects of Community Managed Eco Tourism in the Region**

The involvement of MEDEP in Agro-Eco-Tourism Trail began in 2010. The project districts have been receiving a large number of tourist visitors from different countries besides the domestic tourists. In the year 2011, 100 tourists (60 foreigners and 40 domestic) visited this region using this trekking route. In the year 2012, all together 565 tourists (179 foreigners and 386 domestic) visited the trail. Similarly, in 2013, 386 (150 foreigners and 236 domestic) tourists visited this region using the eco-trek. The countries they came from included the America, Israel, France, Germany, British, Netherlands, Australia, Japan and others. Various types of effects of eco-tourism in the region are described below.

##### **3.1.1 Effect on Job Creation**

With the introduction of eco-trail in the region, numerous tourism-based enterprise related jobs such as operation of home-stay, community dining hall, lodges, tourist-guide, cultural activities, sightseeing, lunch spot, etc. have been created throughout the eco-trekking routes. These enterprises in turn have generated the demand for other enterprises, e.g., (i) agro-based: off-season organic vegetables; mandarin and its juice; *Shitake* mushroom; strawberry, plum processing; rainbow trout; (ii) forest-based: *Lokta* paper; paper products; nettle powder; *Allo* products; and (iii) artisan-based: handicrafts. Presently, some people were found to be directly

employed in tourism based enterprises.

Out of 248 respondents employed by different enterprises, 74 people were directly engaged in tourism based enterprises as hotel managers, home-stay owners, tour-guides, cooks, porters, etc. Besides direct employment generated by the eco-tourism, many people have been indulged in indirect activities (agro based and forest based enterprises established targeting the visitors travelling along the trail. For example, in numerous parts of this region, many people have started to cultivate more potatoes, which really find a cash market. Therefore, in some places, potato production has been intensified. Many households along the trekking routes have begun cultivating fruits and other high value crops like strawberry, kiwi fruits, ground apple, etc. Similarly, one place (called Banskharka in Parbat district) possessing around 1200 mandarin trees fetched an income of over NRs. 100, 00,000 from the sale of oranges in the year 2012.

### **3.1.2 Effect on Economy (employment and income)**

With regard to effects of community managed eco tourism on the economy, the study findings revealed that ecotourism has brought economic opportunities to the region, where agriculture and animal husbandry used to be the traditional main occupation of most households. In the past, the main source of income in the region used to be the pensions of ex-Gurkha soldiers, who worked for the British and Indian Armies. However, this source too appeared to be declining due to outmigration of ex-Gurkha soldiers to big cities and nearby towns.

Ecotourism has changed the employment patterns of this region with the increased demand for trekking related human resources: such as jobs for porters, cooks, kitchen helper and guides. However, not all of these employments accrue benefits to the total population, even though the people outside of the region could take the advantage of this opportunity. As a result of operation of ecotourism, different employment patterns seemed to be generated by group of or individual trekkers out of these facilities. This has been mainly because a large number of local communities depend on local lodge operation, community lodge or home-stays for food and accommodations. The study also found the positive effect of ecotourism on income; going even beyond this point, as the

trekkers were also found to be spending their money on drinks, fruits, handicrafts, cultural programmes, etc.

Of a total of 15 accommodation operators and owners (community dining/ lodge, home stay-owners and private lodge operators) were surveyed to assess their annual income before and after the introduction of community managed eco trail. The findings in this regard are presented in Table 1.

**Table 1: Earning Annual Income in NRs. (computed based on 15 Persons)**

Sr. No.	Earning before introduction of community managed eco-trail	Earning after introduction of community managed eco-trail
1.	Less than 50,000.0 (earned by 2 Persons)	50,000 to 100,000.0 (earned by 3 persons)
2.	50,001 to 100,000.0 (earned by 4 Persons)	100,001 to 200,000.0 (earned by 6 persons)
3.	100,001 to 200,000.0 (earned by 6 persons)	200,001 to -300,000.0 (earned by 3 persons)
4.	200,001 to 300,000 (earned by 3 Persons)	Above 300,000.0 (earned by 3 persons)
	Total = 15 Persons	Total = 15 Persons

Based on the data in Table 1, the Per Capita Income (PCI) computed for the respondents before the intervention of MEDEP project was found to be around NRs. 28,983. In contrast, after the intervention of MEDEP project, it was to be around NRs. 47,944, with an increase of around 60 percent within a period of 3 years. It was also found that 4 households (out of 15 surveyed) remained below the poverty line before the introduction of eco-trail by MEDEP project, whereas only 2 out of 15 households surveyed were found to be below the poverty line after the introduction of eco-trail (*considering PCI below NRs. 21168 as below poverty line, according to Nepal Standard Survey III and revised as an inflation rate of 2011-2012*). The income given by the respondents are the combination of income generated from accommodation, sale of vegetables as well as other related products.

### **3.1.3 Economic Empowerment of the Entrepreneurs**

The analysis of economic impact of eco-trail on the community lodge/dining operators and home-stay owners revealed a positive result on these entrepreneurs. Of 6 community lodge and dining operators interviewed, all of them were found to be engaged in agriculture activities, besides operating their community lodges. They also reported that there been positive changes in their annual income after the introduction of eco-trail in their region. Similarly, of 9 home stay-owners surveyed, all of them were found to be engaged in agriculture activities besides operating their enterprises. However, these entrepreneurs also reported that there has been no any significant change in their annual income even after the introduction of eco-trail in their region. This might be because of the fact that not all of them have been able to meet the number of tourists and revenue target in 2011.

With regard to income generated from eco-trail in 2012, the community managed eco-trail generated a sum of NRs. 1,688,956.00 from the tourism based enterprises. This amount includes the cash (NRs. 613,050.00) received by community lodges and dining halls from the individual trekkers (directly) and NRs. 1075906.00 from booking via travel agencies. Out of the total income earned from the trekkers, 90 percent of it was distributed among the communities. It is pertinent to mention that the share of the income depends on the total income earned from the community lodge and dining hall of the village. Therefore, different communities get varying amount depending upon the number of visitors in the community. The remaining 10 percent fund was utilised by the management committee of the eco-trail as administrative cost, for nature conservation and construction of the trail. In 2012, the committee also repaired the road (eco-trail).

### **3.1.4 Effect on the Society and Culture**

From the socio-cultural perspective, tourism has allowed important advances in human development opportunities. In this community managed eco-trek region, tourism development is associated with significant advances in understanding the tourism and awareness of the local people about eco tourism, educational opportunities, water and

electricity supply, communication, health-care access to material goods etc. All of these factors are important indicators of social development, yet they are so basic for the Westerners that they take for granted in the developed countries.

From the group discussions and interactions with the local people, especially the members of Mother's group and the Youth group, it was clear that the people of this region were very concerned about preserving and retaining their unique culture, traditions and values. Before the eco-trek was introduced, they did not even understand what tourism was all about. One of the members of Mother's Group from Nangi, Myagdi said *"Because of ecotourism we have become aware of natural and cultural attractions. Now we have started to preserve our traditional dances and cultures. At the same time we are also handing over our traditions and cultures to our next generations."* Similar opinions were shared by most of the local people in the region.

Regarding the negative consequences of tourism in the community, the local teachers and local representatives shared their common feeling about the possible negative impacts that tourism can bring in their region. One of the local teachers and Chairpersons of Community Lodge Management Committee of Tikot, Myagdi shared, *"We know that tourism can bring negative consequences in the area in coming days. These effects can be social, environmental and economic. But we are concerned about it and we are ready to take any kind of measures to control it or bring it to minimal"*. Similar views were also expressed by other local teachers, other officials of Community Lodge Management Committee and volunteers of Nangi, Myagdi.

### **3.1.5 Effect on the Environment**

One of the most obvious and frequently cited effects of the tourism in the mountain areas of Nepal is the physical environment. But as the eco-trail was introduced only in 2011 in the region, hardly any negative effect of it could be noticed during the field visit. Most of the trails and villages were kept clean with proper waste management. However, lack of toilets along the trail for the trekkers was felt. Similarly, destruction and disturbance of the trails and temples due to construction of motorable road could be



observed in few places (on the way to Nangi from Banbare), thus revealing that there was a lack of coordination between different stakeholders and neighbouring villages regarding the development projects and environment. However, the local people were found to be unaware of this matter.

The likely pollution of water resources due to the installation of toilets too close to rivers and streams appeared to be of growing concern among the local people. However, no such activities were seen during the field work. The streams and other small rivers were very pure and pristine. Another most widely discussed topic on mountain environment was ‘forest degradation and deforestation’. The firewood consumption by the tourism industry in the region might have most significant effect on the forest, vegetation and wildlife. However, the intensity of firewood consumption along the eco-trail region was found low, as the people in most places were using the gas (lpg) for cooking purpose, except in few places which were relatively isolated from the bazaar area. However, throughout the eco region, these environmental issues can be managed and controlled or kept at acceptable levels of environmental change.

### **3.1.6 Effects on Women Empowerment**

During the field work, 15 persons (8 women and 7 men) were interviewed to assess the effect of ecotourism on women. They represent TARKARI *Samuha* (vegetables groups like tomato, strawberry, potato, plum, etc.), community lodge and dining hall operator, home-stay owner, cooks, juice makers, jam entrepreneurs, or local Mother’s groups. They were found to be highly interested in learning things; hence were raising queries and sharing experiences regarding their fields. They articulated that, from the experiencing of working in the community lodges, by operating home-stay and involving in different entrepreneurship, they have gained confidence and skills to pursue employment in larger scales. The women representatives of various local organisations (Tarkari Samuha, Mother’s Group, Cook of Community Lodge, etc.) said that they did not have any confidence before. They said that they were afraid of even introducing themselves before the staffs of MEDEP project two years ago. They lacked confidence to speak in front of strangers. However, the things

have changed over time. They now can present their ideas and opinions in front of everyone, and participate in every decision making process of the community. They now know that tourism based enterprise has many benefits and they want to work more and learn more.

### **3.2 Perceptions of Local People on Community Managed Eco-trail**

The study interviewed a total of 92 local people, who have been involving themselves as community lodge/dining operators, home-stay owners, and local entrepreneurs involved in agriculture and handicrafts, cooking and kitchen staffs, guides and porters, private lodge owners, members of Mother's group, local school teachers, social workers, etc., to understand their perception about the community managed eco-trail. It was found that a substantial proportion (77.17%) of them perceived 'eco-tourism' as having potentials of benefiting them variously, e.g., economic benefits, primarily a good way to make a living, etc. Similarly, most people from nine major sites (Banskharka, Dandakateri, Nangi, Tikot, Gharamdi, Khibang, Swanta, Narchhyang Lek and Narchhyang Besi) reported that they were earning income either from direct employment (such as community lodge and dining operators, home-stay operator, guides and porters), or from indirect activities like sales of foods and vegetables, handicrafts, cultural dances and shows or other services. Each of the project working for community based development programme has a system for distributing the profits, so that even those people who are not directly connected with the tourism do earn something by virtue of being members of the community, as shareholders in the operation in one way or the other.

In all the study sites, having 50 to 240 households, though very few families were receiving direct income from introduction of eco-trek, many of the local people have abandoned other activities; and shifted to tourism directly or indirectly. Many of them somehow have connected the tourism to their farming activities (tomato, vegetables, rabbit, mushroom, strawberry, trout, etc) and forest extraction (*Lokta* extraction) by adjusting the time they spend in these activities, depending on the time of year and number of tourists visiting the village.

Similarly, the second most frequently cited benefits, as identified by a majority

(59.78%) of the respondents, included 'learning opportunities' and 'building up confidence'. Similarly, tourists' philanthropy has provided some additional support for health including Tele-health (first time in Nepal), educational facilities and services, volunteering in schools and health posts, wireless connection, marketing of locally produced handicrafts, etc., especially in the destinations like Naagi in Myagdi.

The local people also described the shifts in personal and family life due to the ecotourism. Of 92 respondents, 30 (32.60%) perceived the possibility of "learning and interacting with people of other cultures" as the most important change. Similarly, 43 (52.17%) of them said that the introduction of eco-trek has made them aware of the importance of preservation of cultural wealth and conservation of natural attractions. Most of the representatives from Mother's group said "Because of tourism we have become aware of natural and cultural attractions. We have started to preserve our traditional dances and cultures. At the same time, we are also passing our traditions and cultures over to our next generations".

With regard to negative consequences of tourism in the community, majority of the respondents said that, since eco-trek was introduced at the end of 2011, they have not yet felt any negative effects. However, most of the local teachers and representatives of Community Lodge Management Committee and volunteers of Tikot, Naagi and Nangi of Myagdi have the common feeling that eco-tourism could bring negative effects in their region. They are of the opinion that effects can be social, environmental and economic. They, however, have showed their concerns over it; and expressed that they are prepared to take any kind of measures to control it or bring it to minimal.

### **3.3 Situation of MEDEP Support**

MEDEP's involvement began in Agro-Eco-Tourism Trail sector in 2010. This section presents the current situation of other MEDEP-supported project (e.g., Situation of Mandarin Juice Processing Centre) in the region for future approach. As it was observed and confirmed by the entrepreneur, even though the main season of juice making had been over (at the time of field study), the facility remained unused for quite some time. The situation of organic juice production in Banskharka of Parbat district is presented in Table 2.

**Table 2: Production scenario of organic mandarin fruit juice production**

2010	2011	2012	2013
Establishment of juice processing centre	Training to 16 women	Juice: 2000 X 200ml (400L)	Juice: 250L
		Nectar: 1700 X 200ml (200L)	Nectar:
		Mandarin Skin: 25kg X 300	Mandarin Skin: 10kg (estimated)
		Entrepreneur involved: 4	Entrepreneur involved:3
		Job created: 10 X 1 month	Job created: 9 X 1 month

The highlights of the current status are as follows:

- Facility was unused in 2013
- Entrepreneurs are interested to process the fruits for juice making in their own residence, rather than in MEDEP supported processing centre
- Quantity of fruit processing has been reduced due to lack of sufficient fruits
- Farmers are more interested in marketing of their fruits to outside buyer directly rather than using for juice making
- Entrepreneurs understand the profitability of juice production, but they are concerned with the failure in payment for their products sold through MEDEP in 2012
- Entrepreneurs are also concerned with the lack of supply of pet bottles (200ml) for nectar and bigger bottles for juice
- Entrepreneurs lack market access and they are currently marketing through *Saugat Griha* and dining hall
- Interest rate (24%) is very high

The possible remedies are as follows:

- Widening of the market; apart from Saugat Griha. The organic juice should be made available all along the Agro-Eco-Tourism trail.
- Provision of market access of Banskharka juice along the trail may increase the demand by at least 4-5 folds and increase the business size as well as the profit.
- Seeds from bigger and sweeter fruits should be collected for mandarin nursery. This will add another enterprises and additional source of income.
- Banskharka mandarin fruits are popular in Nepal, the area is free from Citrus Huanglongbing (HLB) and other serious disease; therefore nursery plants from such a location can be of huge demand.
- Nursery training should be given to juice entrepreneurs and others interested, but preference should be given to juice entrepreneurs so that they can use their by-product (seeds) and add value.
- Mandarin or sweet oranges from other districts should be quarantined and regulated in order to ensure that the plants are disease and pest free, and raised in a nursery above 1000 masl.

### **3.4 Effect of MEDEP Supported Project on the Local Economy**

The above mentioned data clearly shows that the intervention in agriculture sector in the villages along the Agro-Eco Trail has been effective. It was found during the discussion with different agriculture entrepreneur groups of various villages that vegetables were imported up until 2010 from Beni in Myagdi district. Presently, vegetables are being sent to different parts of the district and the people are generating more income from the field. Some of glaring effects of MEDEP supported project are as follows.

- In the villages, where vegetables were not grown, and people used to buy at the rate of NRs. 300 to 350 (Tomato) being supplied from Beni, the people have begun producing and marketing in nearby villages and Beni. The most common food crops bought within the village were vegetables, followed by rice and maize. The most common food crops bought from outside the village included rice,

fruits and vegetables.

- The most common food crops sold within the village and outside were vegetables and fruits. This has been because of training and support for offseason vegetables. The products that were sold within and outside the village depend on the villages themselves. For example, in Banskharka, fruits were sold within and outside the village, whereas in Dadaktery and Nagi only the vegetables were sold within and outside the village.
- Cash is generated through the sale of food products. About 50 percent households had generated revenue of NRs. 10,000 to 20,000 and about 34 percent households generated more than NRs. 20,000 per annum.
- Fruits such as Plum could be processed in the form of Jam; thus creating jobs and adding value to a product that would otherwise have been wasted. Similarly, orange juice was also processed thus creating jobs and adding value.
- The people now understood the value of cooperation and benefit of working in their community. They want the cooperative to coordinate with District Agriculture Development Office (DADO) or relevant International/Non-Government Organisations to identify the crops to be grown, and the ways of growing crops and marketing them so that their products become competitive.
- A majority (78%) of the households strongly felt that there has been an increase in demand for food grains after launching of the Agro-Eco-Tourism Trail in 2010. They also felt that there has been an increase in the growth of new agro enterprises, and a great majority (84%) of the households can foresee the possibility of expansion in the near future.
- A majority (81%) of respondents have been benefitted after launching of Agro-Eco-Tourism Trail in 2010; thus demonstrating that the Agro-Eco Tourism Trail has played an effective role in improving the livelihood of the target population.

- The Agro-Eco Tourism Trail has become effective, to some extent, in reducing the out migration of youth. Therefore, the local people foresee that this small step could be a giant leap for changing the current trend of youth outmigration for job.
- The success of MEDEP model in improving the livelihood (creating jobs, increasing food production, producing crops for market, etc.) in the region has been mainly because it identified the appropriate crops, trained the famers and provided access to market. This model should be continued further, and should be taken an integral part of MEDEP for other regions too.

## 4. Conclusion and Recommendations

The purpose of this study was to assess the role and contribution of the MEDEP project in the process of development of community managed eco-trail and to assess the effects of eco-trail in the community. The study was also intended to contribute to overall development of the community based ecotourism in the project districts. The following recommendations are made for the optimum benefits of the local people, the environment and local economy leading to sustainable ecotourism development in the community managed ecotourism sector.

### 4.1 Tourism

- Launch awareness programmes not only to the local people, but to operators as well as visitors, as it is the key aspect to the success of any eco-tourism project.
- Train the local communities in order to attract the tourists to the products and increase the income from farm visit and introduction of PYO (Pick Your Own), cultural dances, and shows where the tourists can also share the local culture, photo session in cultural attires and ornaments on paying basis, etc.
- Make the visitors, agencies and their employees accompanying the tourists aware of the fragility and the possibilities of negative effects of tourism due to irresponsible and unethical travel to the region.

- Continue to retain the quality of services like accommodation, food and hospitality in the region and to attract more tourists in future.
- Identify and select the right stakeholders (persons, groups or institution that have greater interests in such projects) in order to obtain greater advantage from ecotourism.
- Put adequate number of signposts in proper places in order to lead the tourists towards right direction of the trail.
- Train the local communities on cleanliness and hygiene aspects to develop them into skilled human resource required to provide good and healthy services to the tourists.
- Increase the marketing and promotional activities in order to receive maximum number of tourists and earn more revenues.

## 4.2 Agriculture

- Set up Mandarin orange nursery in Banskharka of Parbat district
- Introduce Kiwi fruit in all the villages along the trail.
- Make efforts to use the Banskharka orange-juice, Nangi plum-juice and Khibang-tea along the trail.
- Initiate Organic Certification process for all agricultural products of villages from Banskharka to Narchayang Lekh (hilly area).
- Make efforts to sell seed-tubers at a higher price than that of selling potatoes such; potatoes seed tuber of Nangi and Swata are better than from other places.
- Use True Potato Seed (TPS) for seed tuber production.
- Introduce Pre Basic Seed (PBS) tuber in higher altitudes (2000 masl) to produce high quality seed tubers.
- Introduce potato varieties for chips making so that potato chips-industry can be set up in the region. Potatoes can also be processed as powder for fast cooking.
- Facilitate training on Integrated Pest Management (IPM) in all the villages and introduce organic inputs for crop protection.



- Make provision of additional technical and financial support for rainbow trout projects in all the locations.
- Introduce Vermi-composting to support supply of organic manure.
- Initiate postharvest handling and marketing of strawberry.
- Monitor production of Yacon and explore market access.
- Provide support (help) to increase the size of herd, as cattle farming being done in Poudwar was not in a healthy environment.
- Give priority to skill training to women who have come to town to educate their children but have no jobs.

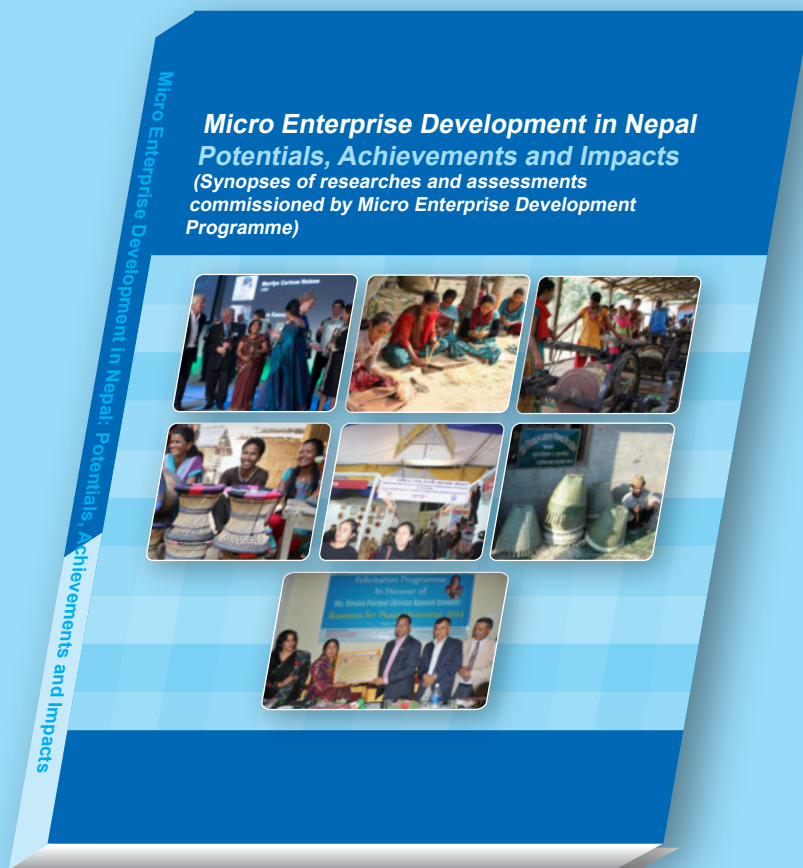
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