

ROLE OF HORTICULTURE IN POVERTY ALLEVIATION IN NEPAL: AN EXPERIENCE BASED ON MICRO-ENTERPRISE DEVELOPMENT PROGRAMME (MEDEP) IN NEPAL

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ABSTRACT

Nepal is one of the poorest countries in the world but has abundant resources for economic development. In Nepal still 25.2 percent people are living below the absolute poverty line (NRs. 19.261). One of the poverty alleviation programmes of government of Nepal is Micro-Enterprise Development Programme (MEDEP) a joint initiative with Government of Nepal. After piloting in ten districts in the first phase (1998-2003) the results of MEDEP for poverty alleviation were found to be effective and government and UNDP recognized it as Micro-Enterprise Development (MED) Model. MEDEP started creating micro-entrepreneurs in various sectors whichever is potential in any particular location by identifying market demand of the first and then promoting the most potential enterprises there. Its established six circle model was then adapted by Government Nepal at Village Development Committee (VDC), Municipality, District Development Committee (DDC) and at the centre in Ministry of Industry in 2008/09. Since then Government of Nepal has been replicating it gradually and covered 69 districts with its resources and is planning to cover all 75 district by end of 2017. Among more than 150 different kinds of enterprises under seven categories (Industrial policy 2010) such as Agro and Forest Based, Artisan (Handicraft) Based, Service Based, Construction Based, Information and Communication Technology Based, Tourism Based and others that need special permission for establish Agro Based particularly Horticulture Based enterprises have been found friendly to poor people and has played significant role in poverty alleviation.

As of end of September MEDEP has promoted more than 75,000 micro-entrepreneurs (Annual Report, MEDEP 2015) and among about 55 percent are Agro Based enterprises. About 60 percent of 55 percent Agro Based enterprises are horticulture based such As Strawberry Production and Production Processing, Apple Processing, Riverbed Farming, Off-Season and Seasonal Vegetable Production and Marketing, Honey Production and Processing, Vegetable Seeds Production and

Processing, Pear Processing, Plum Processing, Mushroom Production and Processing, etc. The rest of agro based enterprises are dairy, food processing and meat processing. Out them about 5,632 horticulture based micro-entrepreneurs were sampled and field survey were also conducted to verify these data and analysed. The results show that the average total average annual production cost of six horticulture products was NRs. 74,065,311 (US \$ 740,653 approx.). The average annual sales value was NRs. 168,739,589 (US \$ 1,687,395 approx.) with net average annual income of NRs. 85,647,029 (US \$ 856,470 approx.). The average per capita income (PCI) before joining MEDEP was NRs. 8,092 (US \$ 81 approx.). With the change in the annual net income their PCI has increased to NRs. 35,978 (US \$ 360 approx.) which is significant change in the income status of the Poor and Socially excluded families. They have been able to create employment to 28,978 persons and about 33,993 persons (entrepreneur and her/his family members) have been able to move out of poverty.

INTRODUCTION

Being a naturally beautiful country with series of snowy mountains and numerous beauties from east to west, Nepal attracts large numbers of visitors from other countries. Nepal has huge resource potential but the gap between the availability of resources and its usage is wide. Due to the lack of employment opportunities as well as less number of production oriented activities, Nepal remains one of the poorest (NLSS 2010, CBS) countries in the world. At present about 25.2 percent of its population live below the absolute poverty line (Nepal Living Standard Survey 2010) set at Rs. 19,261 (US\$ 250) per person per year (Per Capita Income – PCI). Poverty is pervasive and chronic, and this state of pervasiveness is reflected by Nepal's global ranking in the 2014 Human Development Index as 145 out of 187 countries (Human Development Report 2015, UNDP). Since Eighth Five Year Plan the overriding goal of Government of Nepal is to alleviate poverty and plans and programmes are developed and implemented accordingly.

MICRO-ENTERPRISE DEVELOPMENT MODEL

Micro-Enterprise Development Programme (MEDEP) with main objective of poverty alleviation through micro-enterprise development

creating off-farm employment and income opportunities for the rural poor and excluded, initiated based on the government's Ninth Five-Years Plan. The joint venture of Government of Nepal and the United Nations Development Programme (UNDP) was initiated in 1998 as a pilot programme in ten districts (1998-2003) of Nepal which advocated promoting self-employment opportunities in the informal sector to reduce the level of poverty amongst those living below the poverty line and socially excluded by engaging them in the micro-enterprise sector. With the success of the piloting phase for five years the programme was expanded in an additional 25 districts in phase II (2004-2007) and further expanded to 38 districts during the third phase (2008-2013). Currently MEDEP is being implemented its fourth phase (2014-2018) with shift in its main objective of development of institutional capacity of government, micro-entrepreneurs' associations and micro-enterprise service providers fully providing technical support to implement Micro-Enterprise Development for Poverty Alleviation (MEDPA) a government led programme which is replicated in 64 districts and will gradually cover all 75 districts by 2018. For a period of four years from 2008 and the programme covered 38 districts in its third phase from 2008 to July 2013. During the first phase UNDP provided budget from its core fund. The funding agencies such as DFID, Australian Aid, NZAID, CIDA mobilised resources through United Nations Development Programme (UNDP).

Towards the end of second phase (2006-07) Micro-Enterprise Policy was approved by Government of Nepal. During the same period Maoists joined Government and National Planning Commission (NPC) prepared "Three Year Interim Plan (TYIP - 2007/08 – 2008/09)" and micro-enterprise development for poverty alleviation got high priority. As a result micro-enterprise sector was included in the TYIP with allocation budget by Government of Nepal (GON) in the name of "Micro-Enterprise for Poverty Alleviation (MED-PA)" started allocating budget since 2009/10 in 18 districts. Year 2009/10 was the last year of TYIP and NPC developed another TYIP (2010/11 – 2012/13) again giving high priority to micro-enterprise sector. The Thirteenth Plan (2013/14 – 2015/16) recently started and Government of Nepal, Ministry has given

high priority for microenterprise development for poverty alleviation.

Ministry of Industry (MOI) is the main implementing agency where as Ministry of Federal Affairs and Local Development (MOFALD), Ministry of Forest and Soil Conservation (MOFSC) and Ministry of Agriculture Development (MOAD) are the co-implementing agencies. At the centre there is a Project Board (PB) chaired by MOI and represented by MOFALD, MOFSC, MOAD, Association of Youth Organisation of Nepal (AYON), Federation of Nepalese Chambers of Commerce and Industries (FNCCI), Federation of Nepal Cottage and Small Industries, Nepal Rastra Bank (Central Bank of government), Australian Aid and the UNDP. PB makes policy decision and guide for project implementation. In each district, District Enterprise Development Committee (DEDC), which is chaired by District Development Committee (DDC) Chairperson and backed by other district level government and non-government organizations, takes care for the planning, implementation and monitoring of the programme at district level. Several other organizations at centre and district level are playing their respective roles. MEDEP executes the programme via DEDC through Micro-Enterprise Development Service Providers (MEDSPs) through competitive bidding process applying Result Based Sub-Contracting system.

Target Beneficiaries: The first step of programme implementation is selection of target groups. The primary beneficiaries or target groups of MEDEP are low income families (NLSS 2010) living below the poverty line which is basic criterion and based on this income poverty criterion the following are target groups in proportion.

- Women – 60 percent
- Unemployed Youths - 60 percent
- People from socially excluded and hardcore poor communities
 - Dalits – 30 percent
 - Indigenous Nationalities (Adibashi-Janajaties) – 40 percent,
 - Others (higher castes) – 30 percent
 - Religious Minorities
- Disaster Affected Families
- Conflict Affected Families
- People Living with HIV/AIDS (PLHA) and Injecting Drug Users

(IDUs)

- Poor People of Bhutani Refugee affected communities

Natural Resources and Enterprise Development Potential, Market Demand and Target Group Analysis

The second step of MEDEP implementation is to conduct study on Natural Resource Potential, Market Demands and Target Group Analysis of the newly selected districts. This study will identify the existing natural resources and enterprise development potential in each VDC of the districts in terms of volume of raw materials production, and possibilities of creating number of micro-entrepreneurs or enterprises based on the existing resources, existing skills and appropriate technologies. It also looks for readymade demand of markets of the potential products/services and screens and selects only those products/services which have market demand. Besides this study also analyses the demographic situation of the VDCs to determine population density of Dalits, Indigenous Nationalities and Ethnic Minorities. MEDEP intervenes in the common area of interface of the three circles (Figure 1). This study/survey report is shared among the members of the District Enterprise Development Committees (DEDC) chaired by DDC Chairperson. Then DEDC approves the recommendation and findings of this study/survey for implementing MEDEP in the district.

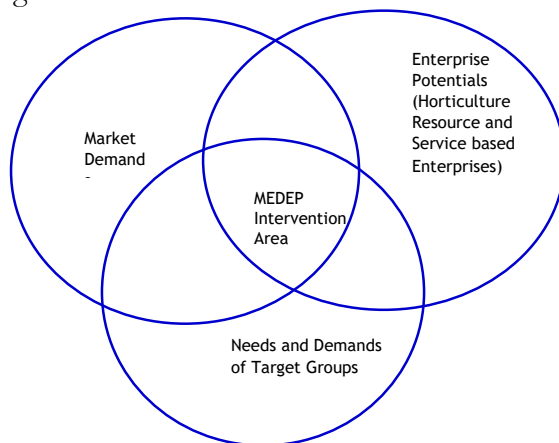


Figure 1: Market demands, enterprise potentials and target group selection

IMPLEMENTATION OF MEDEP MODEL

Social mobilisation is the key to inclusive micro enterprise development for the poor. An Enterprises Development Facilitator (EDF), with support from MEDEP staff members, conduct participatory rural appraisal (PRA) to identify potential target groups and communities. Availability of local resources is also mapped out and market demand is analysed at this stage. Another key element of social mobilisation is to provide orientation to perspective micro entrepreneurs on several aspects, such as basic information about micro enterprises, advantages of working in a cooperative or group, advantages of saving habits, and so on. The districts are selected on the basis of low Human Development Index (HDI) as well as the number of poor people, indigenous communities, Dalits, Madhesi's etc. based on the latest census, while the communities are selected based on natural resources endowments, other enterprise potentials, a rapid market demand analysis and poverty levels. Target groups are selected to ensure 70 % of the Women population, 40 % of the Indigenous People's population, 30% of the Dalits 40 % of the Madhesi's, and 60% of youth (16 to 40 year). The entry point of programme is PRA for wellbeing ranking followed by Household Surveys use forms A, B,C Customer surveys are done with form D while resource endowments use Form F. The logical sequencing of Micro-Enterprise Development (MED) for horticulture based enterprises are presented in Figure 2. Based on the criteria listed and interest indicated the EDF forms the Micro-Entrepreneurs 'Groups (MEGs) comprising 5 to 11 members. If a large number of entrepreneurs are created in a cluster then the Micro-Entrepreneurs Groups are merged and formed a co-operative and there are about 220 co-operatives of micro-entrepreneurs having more than 15,000 members promoted by MEDEP. The uniqueness of MEDEP promoted co-operatives is that each member is running successful business and collectively their volume of production meets the economy of scale for marketing collectively.

Following social mobilisation, the group members are provided with two types of **entrepreneurship development training**. The first type of training is "Enterprise Creation and Development" is imparted to potential entrepreneurs if all participants are literate while "Start and

Improve Your Business” (SIYB) (ILO 2002) is imparted to participants who are barely literate or illiterate. During SIYB training, potential micro-entrepreneurs select their own micro enterprises based on the information provided by EDF. Once a micro-enterprise is selected by potential entrepreneurs, they are provided with **technical skills** which are necessary to develop them into micro-entrepreneurs.

After potential entrepreneurs acquire the required technical skills, they now have to invest start-up capital in the selected micro-enterprise. Groups can use their own saving for investments. If credit is needed, to gain **access to finance**, instead of providing direct financial support, MEDEP facilitates linkages between entrepreneurs and local Financial Service Providers (FSPs). Similarly, MEDEP provides micro-entrepreneurs with *support* to **access to appropriate technology** which is crucial to run and sustain the micro-enterprises. Transfer of appropriate technology often includes user-friendly and low-cost technical skill, equipment, or machinery to a group of entrepreneurs, rather than to individual entrepreneurs. MEDEP makes the links between the Micro-Entrepreneur (ME) and the technology supplier.

Finally, although market demand analysis is done early MEDEP provides support to link the already identified customers with micro-entrepreneurs for **marketing which follows business counselling**. Such support includes, but is not limited to, pricing, labelling, branding and marketing of products for scaling up and graduation of the MEs. Marketing also includes developing linkages between micro-enterprises and small and large enterprises and applying sub-contracting mechanisms. For sustainability of micro-enterprises and their linkages to value chain systems, micro-entrepreneurs are provided with counselling services on a regular basis.



Figure 2: Logical sequencing of horticulture based micro-enterprise development (Pun, L. 2015)

AGRO AND HORTICULTURE-BASED ENTERPRISES

As of end of September MEDEP has promoted more than 75,000 micro-entrepreneurs¹ in seven enterprise categories such as Agro Based, Forest Based, Artisan (Handicraft) Based, Service Based, Tourism Based, Construction Based and Information Technology Based. Among them about 55 percent are Agro Based enterprises. About 60 percent of 55 percent Agro Based enterprises are horticulture based such As Strawberry Production and Production Processing, Apple Processing, Riverbed Farming, Off-Season and Seasonal Vegetable Production and Marketing, Honey Production and Processing, Vegetable Seeds Production and Processing, Pear Processing, Plum Processing, Mushroom Production

¹ Management Information System (MIS)/Database of MEDEP 2015.

and Processing, etc. The rest of agro based enterprises are dairy, food processing and meat processing.

EMPIRICAL EVIDENCES OF HORTICULTURE-BASED ENTERPRISES ON POVERTY ALLEVIATION AND IMPACTS ON LIVELIHOODS

About 5,632 horticulture based micro-entrepreneurs were extracted from MEDEP Management Information System (MIS) Database as sample for this articles and field survey were also conducted to verify these data and analysed. The data presented in Table 1 shows that the average total production cost of six horticulture products was NRs. **74,065,311 (US \$ 740,653 approx.)**. The sales value was NRs. **168,739,589 (US \$ 1,687,395 approx.)** with net average annual income of NRs. **85,647,029 (US \$ 856,470 approx.)**. Their average per capita income (PCI) before joining MEDEP was NRs. 8,092 (US \$ 81 approx.). With the change in the annual net income their PCI has increased to NRs. 35,978 (US \$ 360 approx.) which is significant change in the income status of the Poor and Socially excluded families. They have been able to create employment to 28,978 persons and about 33,993 persons (entrepreneur and her/his family members) have been able to move out of poverty.

While comparing the product-wise increase in per capita income of entrepreneurs then it is observed that strawberry production, processing and marketing has given the highest amount of income to them (about 770% PCI increase) followed by Ginger (658%) and the lowest contribution being from Apple Processing (174%) (Table1). Beekeeping and honey processing have employed the largest number of persons in the business followed by strawberry (12,816) persons) followed by Riverbed Farming (7,026) and the lowest employment by Apple Processing (157). If we compare the contribution of enterprises in lifting the Poor above poverty line then Beekeeping and Honey processing has lifted the highest number of Poor followed by Green Peas and lowest is again Apple Processing. While comparing the the average per capita income (PCI) of entrepreneurs before MEDEP intervention then Green Peas entrepreneurs have the lowest PCI and Ginger Processing entrepreneurs have the highest.

Table 1: Summary of number of entrepreneurs production, sales, profits, percapita income change, number of employment and move out of poverty in five commodities

S. N.	Types of Enterprises	No of entrepreneurs	Average Annual Production cost (NIRs)	Average Annual Sales value (NIRs.)	Average Annual Profit (NIRs)	Average Per Capita Income (PCI) before joining MEDEIP (NIRs.)	Average Per Capita Income (PCI) after MEDEIP intervention (NIRs.)	No. of persons employed	No. Person moved out of poverty	Remarks
1	Riverbed Farming (Vegetables)	1,171	5,999,987	16,040,972	10,040,984	8,963	30,400	7,026	7,026	
2	Apple Processing	157	262,239	501,445	262,954	9,307	16,216	157	314	
3	Beekeeping	2,940	5,303,378	32,038,889	17,660,500	8,963	30,400	12,816	2,816	
4	Strawberry	520	26,970,930	50,342,000	23,371,070	5,023	38,660	2,600	2,600	Annual exported to India worth NIRs. 14,040,000
5	Green Peas	1,054	34,800,000	67,600,000	32,800,000	4,699	23,883	5,270	0,540	Annual export to India worth NIRs. 90,000
6	Ginger Processing	690	728,776	2,216,283	1,511,521	11,595	76,310	697	697	
	Total	6,532	74,065,311	168,739,589	85,647,029	48,550	215,869	28,566	33,993	
	Average		12,344,218	28,123,265	14,274,505	8,092	35,978			

IMPACT OF HORTICULTURE BASED ENTERPRISES IN IMPROVING THE SOCIO-ECONOMIC CONDITIONS OF THE ENTREPRENEURS AND THE COUNTRY

We observed the increase in per capita income and employment creation by six horticultural products in Table 1. With this increase in income of the Poor and Excluded entrepreneurs the following socio-economic impacts have been observed among the entrepreneurs promoted by MEDEP.

- Their average per capita incomes have increased by more than 512 percent (NARMA 2010)
- Brahman, Chhetri, Thakuri and Sanyashi Micro-entrepreneurs contributed 10 percent to family income whereas that of Indigenous Nationalities contributed 20 percent and Dalits 26 percent.
- Women micro-entrepreneurs participation in community institution and social work increased and held decision making position in political parties.
- Participation of women entrepreneurs in VDC, DDC and Municipality meeting increased with ability to raise voices of the voiceless.
- They have been able to send their children in private schools for better education.
- They have been able to access the better health services from the private health service centres.
- Consumption of quality food increased by 40.3 percent.
- Their social status has been increased in the community. One of the entrepreneurs named Ms. Kesha Pariyar, chairperson of National Federation of Micro-Entrepreneurs Nepal (NMEFEN) has won the International Business Peace award. Likewise, more others have won national award such Surya Asha award, etc.
- They have been able to spare time to participate in local community development
- Many of them have been graduated from Micro to Small enterprise and have started paying tax to government.
- Many micro-entrepreneurs products are now being exported such as Strawberry (worth NRs. 14,040,000 annually), Green Peas (NRs.

90,000 annually), Processed honey (mostly Chyuri Honey to India), Bamboo Products, Off-season Vegetables, etc.

POTENTIALS FOR POVERTY ALLEVIATION THROUGH HORTICULTURE BASED ENTERPRISES IN NEPAL

Because of the country's diverse agro-ecological regions available in Nepal there is every possibility of production of high value horticultural crops such as Strawberry, Apple, Beekeeping, Riverbed Farming, Green Peas, Ginger, Seasonal And Off-Season Vegetable, Mushrooms, Kiwi, Vegetable Seeds, etc. and their processed products. These crops are truly suited to poor farmers (small holders and marginalized farmers) as these are high value products. Strawberry production, processing and marketing is a comparatively new venture in Nepal. The history of commercial production of strawberry is not more than one and half decades. The average annual income from this crop is NRs. 100,000 approximately (Pun, L. 2011) and it has very high potential of export to India and processing for frozen peas. Likewise, green pea production in mid hills and mountain areas during rainy-autumn seasons is also a very high potential as it is also a export crops. Farmers plant peas immediately after potato harvest and therefore it has become possible to cultivate two crops in a year in the mid-high hills areas.

In most of the central Terai regions the landless families reside near the river bank and their livelihoods is labour work in the landlord land or work in the road side. MEDEP experience shows that if riverbeds lands distributed to these landless families then they cultivate for farming of high value crops such as cucurbits (water melon, musk melon, bottle gourd, cucumber, etc). There are about 200,000 ha land potential for riverbed farming in Nepal. They can earn on an average NRs 10,000 per Kattha. They can cultivate two crops in the riverbeds as the water level subsides in the riverbed for about nine months from October to June. This has been proven a very potential land for poverty alleviation of landless families settled nearby and along the river banks. Not only MEDEP but also other organizations such as MEDEP, Helvetas, GIZ, Plan International, Forward and Mercy Corps (Riverbed Farming Development Draft Policy 2013). These organizations have formed Riverbed Farming Alliance and

working on Riverbed Farming policy that has been submitted to Ministry of Federal Affairs and Local Development (MoFALD).

Vegetable seeds have become another high potential crop for poverty alleviation as it is most suited to the small and marginalised farmers. Vegetable seeds is also an important export crops.

PRESENT ISSUES AND CHALLENGES

Although horticulture based enterprises have been a high potential sub-sector for poverty alleviation as well as economic growth of the country there are several issues and challenges. A few of them are listed down.

- Fragmented and small land holding that limits farm mechanization
- Difficult terrain making difficult in transportation of agriculture inputs to the production sites and transportation of horticulture products to market
- Poor market network
- Middlemen determining the price and cartel system
- Lack of market assurance of the products
- Limitation of technology dissemination
- Lack of economy of scale production of the products
- Because small scale of raw material production establishment of processing industries have limited scope except micro-enterprises.
- Blanket recommendation of technologies and subsidy schemes for marginalized, small and large farmers which is not marginal and small farmers friendly policy

RECOMMENDATIONS AND SUGGESTIONS

- Technology and subsidy schemes should separate for marginal, small, medium and large farmers. Marginal and small farmers should have better access to subsidy schemes of the government and different package of practices and technologies should be developed for marginal, small, medium and large farmers
- Market infrastructures should be build wherever commercialization of high value crops are possible
- Micro-irrigation and water harvesting technologies available should

be made easily available to marginal and small farmers.

- Rural Market Centres should be promoted as engine of local economic growth.
- Micro-enterprise level horticultural crop processing should be promoted in rural areas.
- Non tariff barriers such as exploitation by middlemen, brokers, should be controlled and there should legal base to discourage such practices.

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