

Background:

The paper titled “**Community based Enterprises and Market Development for Medicinal and Aromatic Plants (MAPs) in the Greater Himalayan Region**” (annexure I) was presented under the theme “*Making the Link – Medicinal plants Impacts on Poverty*” the International Conference on Role of Non Timber Forest Products (NTFPs) in Poverty Alleviation and Biodiversity Conservation, 11-14 June, Hanoi, Vietnam.

The Conference was hosted by the NTFP Sub-Sector Support Project, the Ministry of Agriculture and Rural Development (MARD), Government of Socialist Republic of Vietnam, and the World Conservation Union (IUCN), The Netherlands Development Organisation (SNV), The German Technical Cooperation (gtz), CARE International, the World Wide Fund for Nature (WWF), The Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) and The Swiss Import Promotion Programme (SIPPO).

It brought together practitioners, entrepreneurs and researchers who are involved in NTFP initiatives that provide opportunities to address poverty reduction while maintaining biodiversity. Participants shared methodologies; approaches, product and market information and other lessons learned from NTFP development and conservation initiatives. A local trade fair was organized on the third day of the conference to provide an opportunity for NTFP producers to display their products and meet potential buyers.

Individual, participants, government institutions and development agencies from South East Asia were enlightened by the poor centered, incentive based management focused and business oriented integrated focus of MAPPA projects to address the issues of livelihoods and equitable commercialization of MAPs/NTFPs. Of particular interest were the components of community based natural resource management (CBNRM) – Joint Forest Management (JFM) in India and Community Forestry (CF) in Nepal and the involvement, participation and ownership of grassroots committees/users in MAPs/NTFPs management and enterprise development; utilizing indigenous knowledge to offer livelihood opportunities through the manufacture, branding and marketing of traditional medicines; institutional mechanisms for certification and efficient methods of ensuring compliance to standards and protocols at the local level.

Important Lessons

Some of the emerging issues that need to be addressed by NTFP projects are to analyze the ways and means by which NTFPs help to alleviate poverty. It is extremely important to understand the critical gaps in delivery mechanisms and linkages. Such learning's should be blended with the successful elements of NTFP models available nationally, regionally and globally and projects should identify how best to use these models and build on their experiences to have desired impacts on poverty and environmental conservation at the local level.

It is also important to understand that there are trade offs in conservation and economic development approaches. Lessons learned from projects should be able to inform policies governing NTFPs so as to strengthen both biodiversity conservation and poverty alleviation from their use and trade. It is therefore important that projects develop linkages with nodal agencies or with national programmes in each country

so as to collaboratively develop an enabling policy and institutional environment for successful commercialization of NTFPs.

Networking for Transfer of Knowledge

The national NTFP project in Vietnam has expressed interest to visit MAPPA project areas in India and Nepal to get a broader understanding of the models and see the possibilities of replication in their project areas. As the country is finalising the NTFP policy 2020, exposure to the NTFP development models, policy and institutional set up in different ICIMOD regional member countries would be relevant. The German Agro Action working in Myanmar has also shown interest in MAPPA and has requested for information material on ICIMOD work and MAPs/NTFP programme. The regional programmatic experience and networking efforts of MAPPA is extremely relevant and appropriate in targeting issues and information generation and can contribute to the development of the sector in the region and beyond.

Community based Enterprises and Market Development for Medicinal and Aromatic Plants (MAPs) in the Greater Himalayan Region

Paper to be presented at the International Conference on Role of Non Timber Forest Products (NTFPs) in Poverty Alleviation and Biodiversity Conservation, 11-15 June, Hanoi, Vietnam

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Background

NTFPs include broad category of natural products with a large group as medicinal and aromatic plants (MAPs). The Himalayan region is a treasure trove of MAPs and associated traditional and indigenous knowledge (Karki, 2004). Two global biodiversity hotspots viz. Indo-Burma and South Central China are present in the Greater Himalayan region with a large number of endemic MAP resources. Local people, especially poor and ethnic minorities, derive a substantial portion of their income and products for their livelihoods and basic health care needs from medicinal plants (Karki, 2002). In the northern mountains of Nepal up to 50% of the household income is derived from harvest and sale of high value MAPs, such as Jatamansi (*Nardostachys grandiflora*), Kutki (*Neopicrorhiza scrophulariiflora*), Yartsagumba (*Cordyceps sinensis*), Chirata (*Swertia chirayita*), etc. (Karki, 2000).

Herbal products initially used for home remedies, subsistence purposes and small-scale trading by rural communities, are in high demand from industry and external trade. Studies show that certain MAP species or groups of species are being over exploited leading to extinction. Conservative estimates put the monetary value of MAP-related global trade at around 63 billion USD, estimated to grow at the rate of 7% per annum (Nagpal & Karki, 2004).

NTFPs are an integral source of livelihoods providing food, medicine, dyes, tannins, gum, construction materials, etc., and source of cash income for the poor and landless communities in the mountain regions. NTFPs have been recognized widely as a source of significant livelihood value, especially to the rural poor, as they provide cash income, local medicines, supplementary food and products of other daily needs. NTFPs of the Greater Himalayas are drawing increased attention from both development planners and environmentalists due to their multiple functions and potential contributions in improving livelihoods of rural communities (Rawat and Uniyal, 2005).

The International Centre for Integrated Mountain Development (ICIMOD) has experienced that subsistence agriculture is increasingly becoming unsustainable both economically and environmentally. But niche products can serve as a basis for diversifying incomes of mountain communities. Non-

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timber forest products (NTFPs) have been identified by various agencies as one of the sub-sectors with potentials to generate additional local income and employment opportunities through participatory approaches in the remote mountain regions.

Regional Trade Scenario

India is the centre of South Asia's export trade in medicinal plants, and it is estimated that the collection and processing of medicinal plants contribute to at least 35 million person days of employment per year. 960 species are traded in India with the total consumption of 312,516 MT including 123 species having demand extending 100 MT per year (GOI, 2001).

In Bangladesh, it is estimated that around 12,000 tones of dried medicinal plants worth around 4.5 million USD are sold from the rural collection and production areas that contribute significantly to the rural economy (SEDF/IC, 2003). The annual import of MAPs to Bangladesh has been estimated at Tk 500 million (Non Wood News, 2007).

In Nepal, an estimated 20,000 tons of MAPs worth 18-20 million US\$ are traded annually and about 90% of this collection is exported mainly to India in raw form. Some 20 high demand and high value products constitute about 80% of the volume and value in trade (Bhattarai and Olsen, 2000).

In Pakistan dried medicinal plant material worth USD 30 million per year are used in the country, while a substantial quantity of crude plant drugs and their derivatives are exported to developed countries.

The scenario of MAPs in Bhutan is not very different from that of other countries of the region. About 300 species are harvested from the wild and the cultivation of a few selected species has been initiated very recently. However, the medicinal plant farmers have been highly encouraged to supply medicinal plants to the traditional medicine manufacturing units of the government. Therefore, a significant proportion of the cultivated products are used domestically for the preparation of traditional herbal medicines while the majority is exported in crude forms.

In China 8.5 million tons of MAP resources are used every year, which are mainly collected/harvested from the wild. There are records of significant trade of MAPs from Afghanistan and Myanmar as well.

Issues in Commercializing MAPs in the Himalayan Region

The increasing use of MAPs in natural products, health foods, cosmetics and nutraceuticals has implications on the sustainability of resources and pro-poor MAP-based livelihoods. In the Himalayan region, 90% of medicinal plants are extracted from the wild often following destructive harvesting. Most of the collected plants are exported in the raw form with very little processing in their area of origin. Producers and collectors are often disorganized and have poor access to technology, credit, market information and have critical

disadvantages in terms of quality control and bargaining power. The marketing system is unorganized and secretive. In such a scenario, the poor collectors in remote regions get a meager share of the final value of the products. On an average, the share of the collectors in the final price paid by the consumer is as low as 10% (Karki et al., 2003). Although, cultivation of MAPs has been proposed to be a viable option to diversify farming practices, forward and backward linkages are yet to be adequately developed and impacts on the landless inadequately studied.

The Medicinal and Aromatic Plants Programme in Asia (MAPPA)

MAPPA is a programme of strategic research, collaboration and networking on MAPs. It develops, provides, and promotes appropriate options, methods, strategies and technologies and other sustainable solutions to provide direct benefit to poor and marginalized people and help conserve critical medicinal plants-related biodiversity wealth for use by future generations.

The emphasis of the program has been on action research that has potential to benefit the rural poor and indigenous communities. MAPPA network projects aim to influence policy making in the areas of biodiversity conservation, sustainable livelihoods and improved primary health using MAP sub-sector as the model. The programme also works closely with national governments. It has facilitated policy and institutional reforms and evolutions specifically targeted in the MAP areas in the Hindu Kush Himalayan and South Asian regions.

MAPPA covers three principal themes:

- a) *conservation of biodiversity through sustainable use;*
- b) *expansion of livelihood opportunities through equitable commercialization; and*
- c) *safe and efficacious traditional medicine system for primary health care.*

With respect to the theme “*expansion of livelihood opportunities through equitable commercialization*” experience of ICIMOD-MAPPA show that if people can benefit financially from enterprises that depend on forests, and other natural habitats, they will take action to conserve and sustainably use them. The objective of the paper is to highlight the efforts of ICIMOD-MAPPA in promoting NTFP/MAP commercialization through community based enterprises (CBE) for promoting local value addition for species in trade as well as to provide incentives to conserve resources in Chhattisgarh, India and in establishing cooperatives and endowment funds in West Nepal.

Strategies for MAPs Based Pro-poor Livelihood Opportunities

Supply Chain Management of MAPs

MAPPAs focus on supply chain management (SCM) of MAPs as an imperative in developing the MAP sub-sector to meet the objectives of conservation, quality production and accessing regional and international markets. The development of community-based enterprises and efficient supply chains under MAPPAs is being done in a strategic manner keeping in mind the current operating nature and structure of the sector and by acquiring specific knowledge of the institutional capacities, modes of operation, and internal linkages found in the domestic and regional MAP sectors.

Understanding the constraints to growth, including existing market information and infrastructure, linkages, market arrangements and access, and the level of services to the poor enable the development of sustainable and need based solutions. MAPPAs/ICIMOD follows a knowledge-based approach in developing integrated and transparent supply chain arrangements.

Community Based Enterprises – A viable option for pro-poor growth

The basic concept of the community based enterprise (CBE) structure is to organize the collectors/producers into a common platform to produce and market value added products and elevate them from subsistence to value added resource management. This is important in the context of MAPs as they are used in a diversity of products requiring different storing, processing and quality control requirements. With appropriate structures of CBEs their key priorities are to ensure that producers receive dependable and immediate cash returns for their produce, promote local value addition and share the profits generated by the business with relevant stakeholders. These activities remove some of the chronic problems like unorganised and secretive supply channels, high-volume & low-return distress sales, and illegal harvesting. Organized producer enterprises improve the supply of quality raw materials and also command better prices over their produce, apart from the potential of developing long-term relationships with buyers.

CBEs are formed from within the decentralized resource management groups like joint forest management (JFM) in India, community forestry (CF) in Nepal. Primary and secondary collection and dispatch centres of MAPs in the rural areas as community based enterprises are developed.

Quality Control

In order to balance collection with cultivation of endangered MAPs, quality planting materials are being produced and multiplied in state of the art nurseries. The project partners and community groups have been trained and familiarized with various types of good practices and international guidelines, especially the WHO Good Agriculture and Field Collection Practices (GAFCP), organic production etc. The key factors in quality control, especially in minimizing microbial contamination, post harvest handling, adequate labeling protocol and right storage conditions for quality maintenance, which

are of critical concern are continuously disseminated to the growers and MAP collectors and compliance monitored. Chains of custody cards have been developed and distributed to members of 357 households covering 5 villages in Chhattisgarh, India.

Marketing of MAP Products – experiences from India

In Chhattisgarh, India, the MAPPA project, being implemented by the Chhattisgarh Minor Forest Products Federation (CGMFPPF) identified 11 species after detailed survey for the organic collection, processing, value addition and marketing. The various components leading to community based enterprise development, value addition, and marketing are highlighted below:

Institutional Mechanism for Local Value Addition

In Chhattisgarh, restructuring of adequate marketing facilities has safeguarded the interest of poor collectors and producers. This has been done by setting up self-help groups (SHGs), from within the forest protection committee (FPC) members comprising of both males and females to manage MAPs processing centres. For generation of revolving fund each member deposits Rs 10/month to the SHG funds. Workers in the processing centres are paid on the basis of quantity of raw materials processed per day.

Value Addition through Appropriate Technology

The project further prioritised 5 species, out of the 11, namely Tikhur (*Curcuma angustifolia*), Baichandi (*Dioscorea hispida*), Satawar (*Asparagus racemosus*), Amla (*Phyllanthus emblica*) and honey, which were being processed by very crude methods and mostly under unhygienic conditions.

For the processing of *Tikhur* powder, mechanical and motorized grinder has been introduced in contrast to the stone grinding practices to make grinding process more user friendly and hygienic. *Amla* is being processed in good quality vessels and boiling and drying is done strictly under hygienic conditions. For making *Baichandi* chips improved machines have been introduced and people are using them with great zeal. These machines can produce clean and uniform sized chips, which has greater acceptability in the markets.

After processing, 3 quintals of Tikhur powder, 5 quintals of Baichandi chips & 60 quintals of Amla have been sold for Rs.30000 (USD 681), Rs.10,000 (USD 228) and Rs.1,50,000 (USD 3400) respectively in the year 2005.

More than 100 Kamar tribe families earn their livelihoods from collecting honey from the project area. The earlier method of crude & unhygienic methods have been replaced with improved collection methods and now they sell honey to a small processing plant established at Sankara town, by the project. 500 kg of honey have been collected and sold under a brand for Rs 24,000 (USD 545).

40 hectares of lemon grass have been planted and a distillation unit has been established. Plates out of the leaves of *Bauhinia vahlii* are being

manufactured by women groups and sold in the local markets at Raipur, the capital city of the state.

Income generated from these products go to the participating FPCs. Proper and hygienic collection, drying, grading and storage of selected MAPs have increased incomes of producer groups in the project area. Kalmegh (*Andrographis paniculata*), Dhwaiphool (*Woodfordia fruticosa*), Nagarmotha (*Cyperus scariosus*), Amla (*Phyllanthus emblica*) and Baibidung (*Embelia ribes*) in project area have yielded remarkable prices to collectors than before the project intervention. MAPPA intervention has shown an increasing price trend. These are shown in the table below:

Name of species	Price before Project Intervention (INRs/kg)*	Price after Project Intervention (INRs/kg)	Increase in Percentage (%)
<i>Andrographis paniculata</i>	1.50-2.50	3.00-5.00	100
<i>Woodfordia fruticosa</i>	1.00-1.50	3.00-5.00	300
<i>Cyperus scariosus</i>	3.00	5.00	66
<i>Embelia ribes</i>	20.00	30.00-40.00	50-100
<i>Phyllanthus emblica</i>	10.00-15.00	20.00-25.00	100-166

*(1USD=42 INRs)

Retailing of Branded MAP products

The project has integrated the value chain for the development of MAP products in the project area. In order to take the products to the consumers "SANJEEVANI" an herbal retail outlet has been established in Raipur, the capital city of the state with branches in other districts. SANJEEVANI buys the finished products from the community managed processing centres. The project is also facilitating manufacturing of 19 different types of traditional medicines based on traditional knowledge and prevalent diseases in the project area. These medicines are also sold through SANJEEVANI outlets as OTC drugs which have received tremendous response from the market. All profit from the sale of MAP based products contributes to the FPCs accounts.

Mainstreaming Marketing of MAPs

The project has also developed markets for MAPs based products beyond the state. Proper collection, storage, drying, processing and value addition have provided better prices and acceptability of MAPs from the project areas. The competitive rates offered by the project to collectors has not only developed a marketing system within the project area but have also created a system of

competition with the traditional traders and middlemen, who normally exploited collectors by offering low prices. This has directly contributed to the collectors' improved incomes by more than 100% from MAPs.

Innovations in MAP Institution Building and Finance in Nepal

In Nepal, a leading institution in community based natural resource management is the Federation of Community Forestry Users Nepal (FECOFUN) a network of community forest users. Presently FECOFUN covers 74 of the 75 districts of Nepal involving 11 million people through 14300 forest users groups, directly managing over 1.3 million hectares of community forests in the country generating additional benefits by generating on an average Rs. 914 million per year.

MAPPA is working with district FECOFUN and community forest user groups (CFUGs) in Baitadi and Darchula districts of West Nepal. The salient features of the project in West Nepal have been developing of MAP cooperatives together with the local traders and establishment of capitalization fund to benefit the collectors and traders.

Marketing information

Members of the CFUGs in the project area have been trained on various aspects of markets and marketing including major herbal market studies and agricultural/herbal trade fairs in Nepal and India.

The district-level Project Coordination Committee is represented by the district-level herbal traders in addition to other stakeholders. Mechanism has been developed for the district FECOFUN to obtain market prices and other herb trade-related information from various sources to be disseminated to the village-level stakeholders and community groups including CFUG members. Local traders have been involved to provide market information, guidelines on primary processing and to buy MAPs from community managed cooperatives.

Marketing Cooperatives

With strong component of community based research, capacity building and exposure, communities in remote regions are gaining from collective action in maximizing benefits from community forestry. Marketing cooperatives with endowment funds have been set up in Baitadi and Darchula districts in the far western region of Nepal, for mainstreaming collection and marketing of MAPs that are backed by the development of collection and dispatch centres. The cooperatives have also been providing micro-credit to primary collectors and producers and created a business platform for value-addition and marketing. More than 200 tons of NTFPs/MAPs worth NRs 1.55 million was collected/produced in the two project districts during 2005. Simple interventions have resulted in 50% increase in the price of products at the local level. As the result, the community-members, especially the women groups have initiated group farming efforts on some commercial MAPs in degraded community forest and land. The number of women practicing MAP cultivation in the home yard and farm is also increasing considerably.

Capitalization Fund

Capitalization funds worth NRS 80,000 were provided to 18 CFUGs to provide necessary credit and financial support to participate in MAP based programmes. The funds were used to provide loans to individual members and self help groups to initiate cultivation of MAPs and establish micro enterprises. A total of 206 males and 174 females were offered loans between NRs 500 to NRs 4000 in the two districts. In Baitadi, members from 3 CFUGs produced 1538 kgs of NTFPs and earned NRs 36,983. In Darchula, four CFUGs earned NRs 52,000 from interests paid by the repayment of loans. With the above interventions over the last five years the CFUGs in Baitadi and Darchula produced 500 tons of NTFPs and MAPs worth NRS 4.558 million.

Gender and Social Inclusion

Out of the total beneficiaries in the project in Nepal, 53% are male and remaining 47% female. 19% of the male members and 14% of the female members are dalits (socially backward castes). 2576 male and 1683 female members constitute 4159 MAP collectors/producers in the project districts.

A comparative study between 2005 and 2006 revealed that the male producers increased by 17% (from 1186 in 2005 to 1390 in 2006) while the female producers increased by 22% (from 725 in 2005 to 888 in 2006). Dalit producers have also increased by 3% during the period.

It is realized that that the project intervention that focused on inclusion of poor, dalit and women in capacity building and income enhancement have been effective. The income figure has been aggregated at the household level at NRS 5800 in 2006 that was NRS 4227 in the previous year. Gender disaggregated data will be developed at the end of the project.

Lessons Learned

The MAPPA pilot projects have demonstrated sustainable marketing mechanisms benefiting the local collectors up to 100% in comparison to pre-project intervention stage. Basic principles on good harvesting practices and value addition including semi-processing and processing of the raw materials have to be followed. The requisite know-how in this regard needs to be provided to the primary collectors and producers through appropriate stakeholders as well as through documentation of useful knowledge and practices in the field of production, processing and marketing.

While implementing community based enterprises for livelihood development markets play a significant role in ensuring success. Lessons learned from projects suggest that CBE models should be based on integrating value chains to reach the end consumer through a multi-stakeholder approach or to link enterprises to the value chains of larger enterprises. Community mobilization and capacity building is important to ensure compliance to standards and protocols. It has been observed that certification is extremely

important for export markets, but it's not an end in itself. While certification is often expensive for CBEs, local group certification bodies, whose standards are harmonized with national standards (organic products, GMP, etc.), can provide a good start.

Future Plans

Based on the lessons learned, ICIMOD-MAPPA is promoting CBEs producing quality products that are in demand from the private sector. These enterprises have to be formed in clusters and will be linked to centralized common facility centers to produce consumer products and provide support services. Value addition at every stage is proposed to ensure enhanced bargaining power for growers and collectors for better returns. It is envisaged to have Public Private Partnership (PPP) for ensuring mainstreamed production, marketing infrastructure, increased investment in the sector by ensuring quality and developing brand identity of MAPs products. The entire process is being aimed at ensuring conservation and sustainable utilization of MAPs resources through MAP enterprise promotion in Bangladesh, Bhutan and Nepal and further up-scaling in the Greater Himalayan region for addressing livelihoods problems of poor communities.

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