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**Handmade Paper Value-Chain of Nepal:  
Prospects and Challenges in Growth, Distributional Equity and Conservation**

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# **Handmade Paper Value-Chain of Nepal: Prospects and Challenges in Growth, Distributional Equity and Conservation**

## ***Abstract***

This study examines the access of the actors along the value-chain of handmade paper markets in Nepal. The access has been found to be influenced not only by the existing policy provisions and implementation practices but also other factors including community structure, institutions, technology, finance, markets, knowledge and social relations. The industry has the potential to link thousands of rural poor into a remunerative value-chain providing economic incentives for sustainable harvesting, good governance and equity. The analysis of the growth and dynamics of this industry and existence of various innovative business practices shows a huge potential to improve the access of rural poor to Lokta resource, markets, technology, knowledge and finance, and in turn increase their productivity and income. Specific recommendations are made to improve policy and natural resources management and distributional equity, reduce poverty and promote good governance, while maintaining the growth of the industry.

## **Introduction**

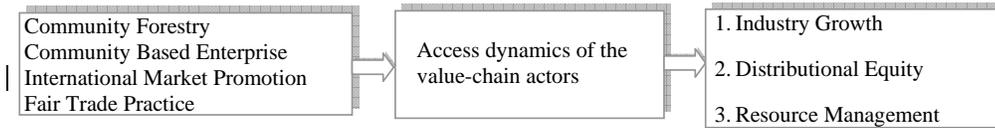
A value-chain analysis was undertaken for the handmade paper industry in Nepal by tracing the use of the bark of the Lokta (*Daphne bholua* and *D. papyracea*) plant into handmade paper. The main objective of the research was to analyze the effects of policy and other factors on access to determine industrial growth, distributional equity and resource management (Fig 1). In our search, we identified major policy provisions that have some implications on access and thereby on value-chain growth, equity and conservation. These policy provisions can broadly be grouped into the following five major headings: community forestry (CF), community-based enterprise (CBE) development, international market promotion (IMP), fair trade practice (FTP), and sustainable forest management certification. Our hypotheses were that:

- CF, CBE, IMP and FTP each have positive outcomes both on income to the poor and resource conservation.
- Restrictive trade policy has negative distributional impacts but positive results in conservation.

The study applied value chain analysis primarily focusing on the access (Ribot 1998) dynamics and its effects on growth, equity and conservation. Building on a decade of our experience working in this industry especially with community forest user groups and community-based enterprises, we reviewed literature, analyzed records of concerned stakeholders, and undertook field study to collect required information. The field study was carried out primarily in Dolakha, Bajhang, Jumla and Kathmandu to collect fresh data and perspectives of the actors along the value chain.

A sample survey of groups of actors was conducted to collect the income data and resource management practices as well as to understand how the access is obtained, maintained and controlled. The survey also captured the opportunities and challenges these actors faced in

different situation (e.g. with and without FUG, CBE) and/or at different times. Some key actors along the value-chain were interviewed to find more general information about the opportunities and challenges.



**Figure 1. Relationship between policies, access and outcomes in lokta handmade paper value-chain**

Our access to existing information, insights on this industry and relationship with the actors in the value chain were an advantage. The study considered the following points as a checklist while undertaking the data collection and analysis.

- Understanding of major actors involved in the value-chain (lokta collectors, community forest user groups that manage lokta production, paper producers, paper craft producers, exporters and retailers);
- Costs, income and profits of individual lokta harvesters, community-based handmade paper making enterprises, transporters, paper craft manufacturers and exporters;
- Access and property rights over lokta resources and existing policy provisions and regulations and implementation practices that affect business in the value-chain;
- Details of performance and financial records of some enterprises;
- Margins and market shares of each level of value-chain to find the distribution of income and profit;
- Mapping actors along the value-chain: their number, their roles, position, knowledge, scale of business, access to resources, social relations, markets, finance, technology and information;
- Opportunities and challenges for the actors along the value-chain, especially in relation to policy provisions and practices.

### **Evolution of lokta paper value-chain and policy interventions**

Nepali handmade paper is made primarily using the inner fibers of lokta bark. Lokta plant (*Daphne bholua* and *D. papyracea*) is a shrub which grows gregariously and abundantly in Himalayan forests between 1,600 and 4,000m altitude. Lokta is available in 2,910,848 hectares of forests in 55 districts of Nepal, of which 25 districts witness its abundant supply. As per the study of Forest Research and Survey Center of Department of Forests, the total stock of lokta bark is estimated to be 110,481 metric ton, which can support sustainable production of paper over 950 metric ton every year.

Handmade paper making started in Nepal at least since 12<sup>th</sup> century AD and handmade paper was probably the only paper available that time, especially for the use in religious texts and government documents. With the introduction of modern paper that was imported from India since 1930s, the traditional handmade paper industry suffered for more than four decades. The industry started to revive in 1970s with tourists led demand. Community Development through

the production of Handmade Paper Project (CDHP) of UNICEF and Agriculture Development Bank's Small Farmer Development Program of Nepal (SFDP) provided an opportunity to develop the industry in 1980s with its support in upgrading technology, product diversification and international market promotion. Rapid expansion of the industry began in 1990s when private companies emerged adopting improved technology, fair trade practices, and entering into new international markets. The industry further developed with the establishment of the handmade paper association and emergence of community based enterprises and community forestry that influenced the resource management, trade regulations and institutional innovations, especially community forest user group (FUG), and initiation of private public alliance to promote international market and sustainable forest management with Forest Stewardship Council's certification.

Built on the traditional skills and culture, Nepali handmade paper making has been thriving primarily due to abundant supply of lokta resources, use of labor intensive low capital technology, involvement of a large number of local women and men, and growing market demand for its unique and translucent quality, strengths, durability, and resistance to insects and mildew.

Nepali handmade paper is mainly used for greeting cards, stationery products (note books, printing paper, envelopes), lampshades, wrapping papers, boxes and bags, *thankas* (traditional Tibetan painting), and wallpapers.

Add: a short description of each of the policy interventions

### **Present state of lokta paper value-chain**

The main actors of Nepali handmade paper value chain include lokta bark harvesters, paper sheet producers (micro producers and paper producing companies), paper products manufacturers, exporters, wholesalers and retailers (Fig 2).

Individual households or micro-entrepreneurs undertake the lokta bark collection.

The lokta collectors sell their dried lokta inner bark (bast) mostly to local lokta paper producers (in some cases their FUG or neighboring FUGs do paper making) with few exceptions where lokta bark traders move the bark out of the districts, especially from accessible areas, mainly to Kathmandu.

Some parts of the country, there are household level paper producing units where entire family members often involve in lokta bark collection and paper making. These small units also buy lokta bark from their neighbors, and they sometimes employ some of them in paper making. Relatively larger paper production units buy the paper from the other units and sell it to the Kathmandu market.

The large paper making units are run by local entrepreneurs and more recently by cooperatives or FUGs. Urban manufacturers buy paper sheets from paper producers, manufacture various paper products, and mostly export directly and sell some quantity to exporters.

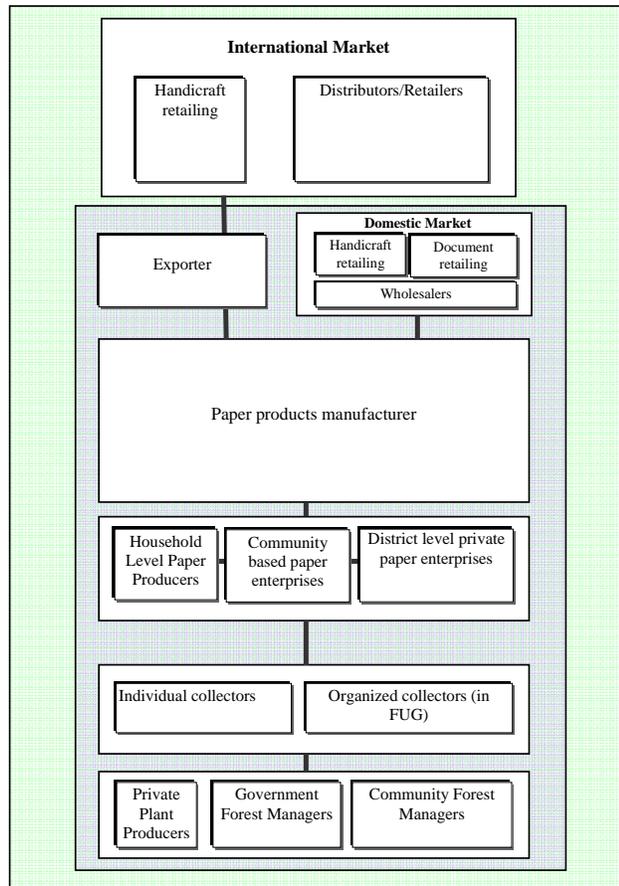


Figure 2. Market diagram of Lokta handmade paper value-chain

In the domestic market, the paper products are mainly sold to tourists and for official government documents, primarily through handicraft retail shops and stationery shops. Kathmandu, from where almost all export of handmade paper originates, also consumes over 80% of domestic sales. Bulk of the products is exported to Europe (65%) and the US (23%), and in Europe mainly to the UK (28%), France (16%), Germany (7%), Japan (6%) and Belgium (5%). There are a number of international buyers who purchase large quantities from individual companies, for example UNICEF Geneva purchases a large percentage from one company. Nepali handmade paper products are sold to customers abroad mainly through specialized gift shops, fair-trade stores, variety stores, furniture and home interior stores, departmental stores, grocery multiples, and mail order houses.

## Growth, Equity and Conservation

The policy interventions influencing the value-chain growth, distributional equity and environmental conservation were community forestry, CBEs, promotion of international market and poverty reduction strategies, and FTP. A brief evaluation of the three outcomes is given below and a detail analysis (explanation of why) of policy and access related factors is presented in the next chapter.

### Growth in industry and implications in employment and incomes

Almost collapsed in 1970s, the barely surviving lokta paper industry was providing employment to only few hundred people. As the market of the paper products was limited to use in religious and government documents in the country, total sales or incomes was negligible. With various policy interventions since then the industry grew dramatically. In 2004, the industry sold various paper products worth US \$4.7 million. The export market of Nepali handmade paper, which comprises 90% of the total sales (US \$4.1 million), has been expanding at an average of 17% annually for the past 5 year period between 2000-2004. The Centre for the Promotion of Import from Developing Countries (CBI) report 2002 indicates the EU market for handmade paper from developing countries is growing rapidly, with the handmade paper import from 744,000 euros in 1999 to 2,577,000 euros in 2001, an average annual growth of 115%.

Nepali entrepreneurs believe that Nepal has quite a good market share of the high end market in the US and EU where Nepal is targeting with its unique and high quality products. As per the CBI report 2002, Nepal was among the top 5 suppliers to the EU market, with average annual growth rate of 66%. The international market, however, declined by 10% in 2005 primarily due to growing competition in international markets and insurgency impacting the production capacity of Nepali industry.

At present, the industry provides employment to over 28,000 persons, of which over 70% are women and over 85% are the poor residing in the mountain villages, where the people even lack basic services, such as health and education facilities. Other income generating opportunities are severely restricted. The poverty line is defined at US \$77 per capita per annum (National Planning Commission/Center Bureau of Statistics) and poverty incidence in the lokta production area remains over 50%. Lokta activities provide income of Rs. 1007 to collectors, who invest about half a month time to this activity.

Comment [Mr. 1]: Add reference

The employment generated from the Lokta handmade paper value chain encompasses both rural and urban areas as follows:

- Lokta bush management and bark harvesting from wild stands provides livelihood to 15,000 villagers;
- Paper sheet production which takes place at the household and village level and provides livelihood for 9,390 villagers, 80% of whom are women;
- Paper products manufacturing which is done primarily in Kathmandu (over 90%) and to a lesser extent in other cities like Janakpur, Birgunj, Pokhara, Biratnagar and Kavre and provides employment to 4,000 urban dwellers.

Furthermore, in our analysis we found that an expansion of the industry could push employment to well over 40,000 people, and the substantial growth potential can have significant impacts in

increasing the incomes and livelihoods of many rural communities, especially women who are already involved in various aspects of value addition.

Table 1. Value chain participants, their costs and margins (income figures in Nepalese Rupees, US \$1 = Rs 71)

Market Actor	Group size (number)	Group income (Rs '000)	Variable costs (Rs '000)	Gross margin (Rs '000)	Average gross margin/unit (Rs)	Remarks
Lokta bark producers	15,000	25,600	NA	25,600	1,007	Sell 640 MT of Lokta at Rs 40/kg
Micro level paper production units	690 (employ 4140 individuals)	11,870	9,496	2,374	3,440	Sell 40 MT of paper at Rs 297/kg; labor income comes to the family
Paper production companies*	305 (employ 5250 individuals)	47,478	33,235	14,243	46,698	Sell 153 MT of paper at Rs 310/kg; also employ neighbors
Paper products manufacturers (also export)	177 (employ 4000 individuals)	270,200	108,000	162,200	916,384	Sell 193 MT of paper in various paper products at Rs 1,400/kg
Exporters**	207	100,000	50,000	50,000	241,546	Sell 71.5 MT of paper in various paper products at Rs 1,400/kg

\* 130 unregistered and 175 registered operational paper production companies

\*\* Stationery shops not included; they are not involved in paper products manufacturing and they also export other products (income and costs related figure only related to handmade paper products)

## Equity: evaluation of the vertical and horizontal distribution of income and margins

Unlike other natural product commodities, each actor adds value to the product along the value chain of Lokta, transforming raw material ultimately into marketable finished products, such as greeting cards and lampshades. As Table 2 shows, the net margin of Lokta collectors is 40%, whereas other actors, who add value by some processing, make gross margins between 20% and 60%. The distribution of benefits indicated by the margins is relatively fair in this industry. As compared to other natural products where the collectors make less than daily agriculture wage rate of Rs. 80 (even this is difficult to find), the lokta collection provides the collectors Rs. 130 a day. The manufacturers whose gross margin is the highest also have highest investment and highest fixed costs, such as stocks, product design, marketing, management and rents.

Table 2. Prices, expenses and margins by market actors and horizontal distribution of profits (rupees per 200 sheets, or 1 kori, of 20 gram, 20' x30' size paper or equivalent quantity of lokta bark required for)

Market Actors	Selling Price	Expenses	Gross margin	Gross margin (%)	Horizontal distribution
Lokta bark producers	400	240 (own labor)	160 (net)	40% (net)	Fairly even in the same location, varies with remoteness
Micro level paper production units	1188	950	238	20%	Fairly even
Paper production companies*	1240	868	372	30%	Fairly even
Paper products manufacturers (also export)	5600	2240	3360	60%	Skewed (depending on market access and capacity,

export)					volume, product design/quality)
Exporters**	5600	2800	2800	50%	Fairly even

Except among the manufacturers, the horizontal distribution of benefits is even for the actors in the same locality. Owing to variations in transportation costs to markets, there is difference in price for the products. In remote locations, where the lokta is relatively abundant (high amount of lokta collection per day) and the other opportunities for income is almost non-existing (low opportunity cost), the price for lokta bark as well as the paper sheet is lower than those areas near to Kathmandu or with transportation facilities. The margin varies among manufacturers depending on the production and marketing capacity. The production and marketing capacity of the manufacturers was found to be determined by market access, volume of production, and product design and quality.

### **Conservation and management practices**

With the introduction of community forestry the changes in the conservation and management practices of lokta can be assessed in terms of community forest user groups, forest management operational plans, lokta management plan and practices, FSC certification and awareness among market actors.

Apart from indigenous community management and control, which was grossly undermined with the centralized government control of forest, there were virtually no management system and practices for lokta plant and forests. The progress in community forestry in Nepal is remarkable with over 14,000 FUGs, involving a third of Nepal's population, who manages ..... ha (above 20% of the total forest). These groups have increased awareness about and improved practices of resource management and have some mechanism of regulating harvest among their members and excluding outsiders. Recently, some of these groups have forest management plan that include lokta. While there are some variations among these management plans, they describe harvesting guidelines. With the progress of community forestry, some awareness

While the overall status of lokta conservation is not known, the positive trend is apparent to mitigate the threats and promote conservation practices. The example of some FUGs in Dolakha and Bajhang managing the lokta forest meeting the international standards of sustainability ascertained by FSC certification clearly shows that FUGs have capacity and have made contribution in sustainable forest management. In addition, the other actors including paper producers and manufactures have increased awareness and concerns about sustainable supply of lokta. Some companies have already established connection with FUGs and/or participated in FSC chain-of-custody certification.

### **Analysis and explanation: policy and access variables determining the growth, equity and conservation**

Before 1990, there was not much policy intervention on the ground. Community based enterprise development initiated since 1985 with the implementation of CDHP. International market promotion efforts were made to increase the demand for Nepali handmade paper. Community forestry policy was introduced in Nepal in 1993. The lokta handmade industry adopted fair trade

principles in 1993 when Fair Trade Group Nepal was formed. As shown in the Table 3, these policy measures changed the access of market actors. The most significant change include i) villagers got legal access to use and manage forests, ii) villagers and paper producers improved market access for their products, iii) paper producers and manufactures improved access to technologies and business development support services, and iv) manufactures and exporters improved international market access.

Table 3. Change in access of market actors with the introduction of various policy measures in Nepal

Market Actors	Access		
	Before 1985	After 1985 (now)	Mechanism for Exercising Access
Villages/forest user groups	Physical proximity and traditional customary rights over forest products; no any formal groups and legal rights	Physical proximity and traditional customary rights over forest resources; in case of FUGs legal management and use rights on community forest and entitled to independently issue collection permit, set and collect royalty on product harvested, chose buyers and sell the products	Forest Act 1993, Rules and Regulations 1995, Approved forest management plan, federations at various levels and informal networks
Lokta bark harvesters/producers	Physical proximity, traditional use practices, traditional knowledge and skill, family labor (limited market for Lokta bark)	Physical proximity, traditional use practices, knowledge on forest and products, skills, labor; in case of FUG, legal access to CF resources, linkage and relationship with paper makers	Member of village communities, CFUG membership, relationship with paper producers
Micro-level paper makers	Access, trust, relationship with local buyers/agents, customary use rights of forest products, availability of labor within the family, limited access to input providers, traditional paper making skills and technology	Access, trust, relationship with local buyers (mostly paper production company) and harvesters, availability of labor within the family, access to input providers, paper making skills and technology, access to capital, access to market information, access to Lokta forests	CFUG membership, relationship with paper production companies or cooperatives
Paper production companies	Access to registration authority, political leaders, capital	Relationship with local harvesters, FUGs and DFOs; access to market information, linkage with manufacturers, linkage with micro-level paper makers; access to improved technology, training, support services (business planning, credit), access to assured market (networks)	Hold company registration and permits to release products from the districts, and networking with local harvesters, micro-paper makers, forest user groups, and government people
Paper products manufacturers		Access to international markets, access to product design and technologies, access to capital and loan, access to labor	Networking with paper sheet producers, government officials and buyers, Association
Exporters		Access to international markets, access to paper manufacturers	Association

Figure 2 provides how various policies have changed access of market actors and in turn influenced the outcomes in the value-chain in terms of industrial growth, social equity and environmental conservation.

*Community Forestry:* Due to the CF policy and its implementation (see also Box 1), which promoted the transfer of legal rights to manage and use certain patch of forest and its resources from central government to local communities, the local communities united under forest user groups improved their forest management and use practices, leading to the forest management and conservation outcomes. When the local users improved access to resources and they were given rights to independently issue collection permits, set and collect royalties on forest products, and sell their products, it increased the feeling of ownership among the villagers together with a greater sense of responsibilities to manage and utilize the resources from the long-term perspectives. The forest user groups devised the management plans and improved forest management practices by implementing forest protection, regeneration management, and sustainable harvesting plans and guidelines. There is a notable change in forest coverage and improvement in harvesting of forest products, which is believed to be improving biodiversity conservation. For example, Shree Binayak FUG in Bajhang has developed and has been implementing their forest management plan. There is a detailed assessment and inventory records of lokta resources and provisions for sustainable lokta management in the forest management plan. The group has also been implementing monitoring system for lokta harvest and forest stocks.

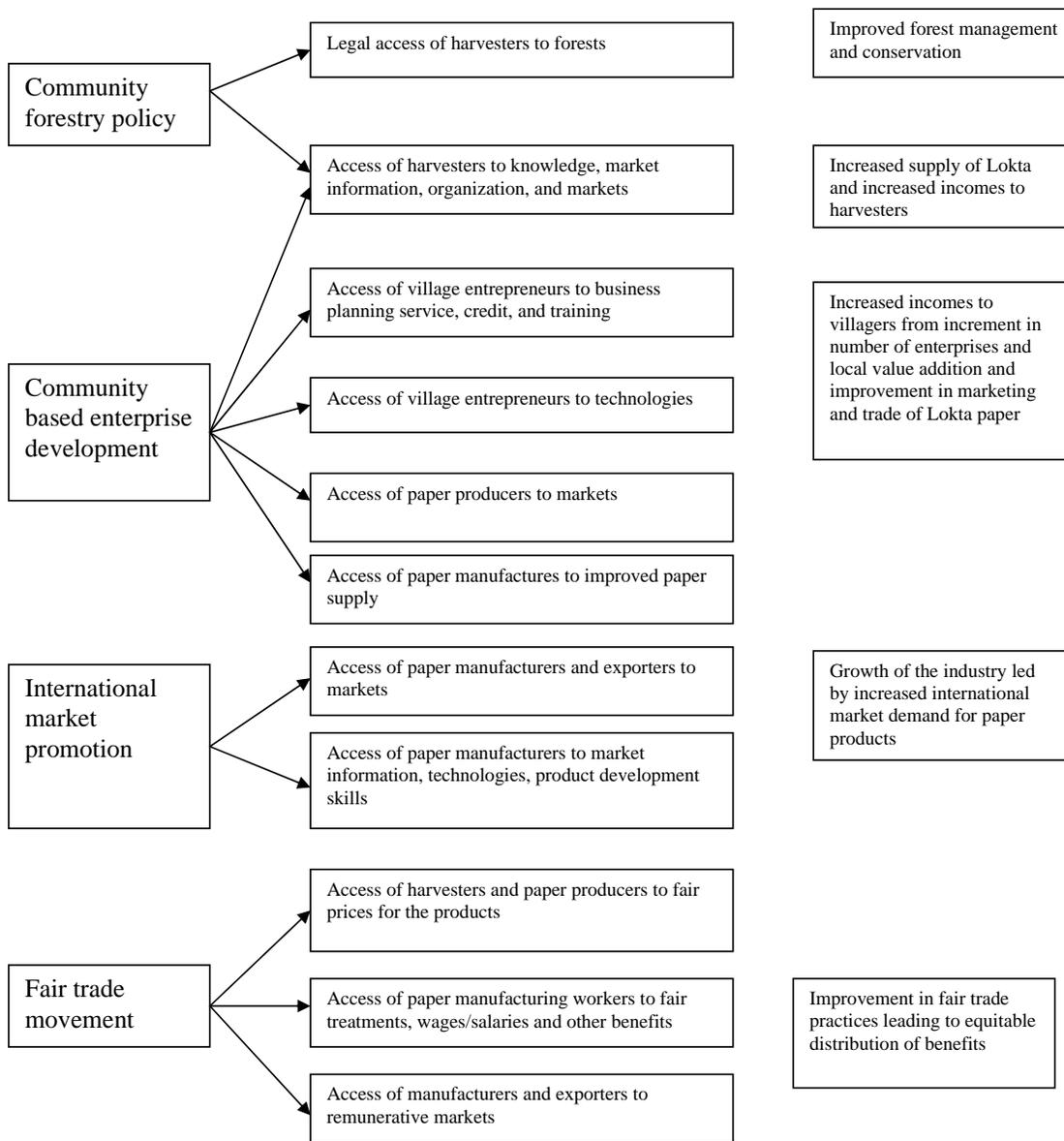


Fig 2. Various policies affecting access and thereby in growth, equity and conservation in lokta handmade paper value chain

As the forest management was devolved to the forest users, it also improved the equity, in terms of share of members in decision making and benefit distribution. In the user group committees,

almost equal number of women members was nominated to represent the women concerns and contribute in forest management decision making. Dalit and disadvantaged sections of the communities were also involved with their representatives as officials in the forest user group committees.

With the transfer of forest use and management responsibilities, local communities gained legal control over the forests and they developed practical, appropriate forest products harvesting and distribution rules and guidelines. Unlike the time before when every member *de jure* required getting collection permits from the concerned district forest office or range post before harvesting any forest products, this policy changed a lot on forest products harvesting and distribution and significantly improved the access of the villagers to the forest resources. As a result, now over 1.6 million households (a third of the total population) have gained legal access to forest resources. With the increased involvement of the communities in decision making and forest management activities, the forest user groups not only promoted equitable sharing of benefits derived from forest management, some of them also gone on just system where they provided special benefits to the poor members. For example, Bhitleri FUG in Dolakha has given their poor members pieces of forest land to cultivate one species of lokta and Shree Binayak in Bajhang has provided jobs for the poor members in forest protection.

When the community members were organized into forest user groups, they also improved harvesting and post harvest handling practices and gained bargaining power in selling their forest products.

With the increased access and rights of FUGs over resources, some of the traders/contractors, who used to have illicit relationship with forestry officials and enjoy influence on trade of forest products, had to suffer a bit. Forest user groups also denied the access of some outsiders to their forests and products there. Although it has good implications on forest management and greater benefits to their members, some communities, especially those doing cattle or sheep herding, faced difficulties, some forced to change their age old profession.

*Community-based enterprise development:* Community based enterprise development interventions were made through development programs and projects. With the UNICEF/SFDP project, the traditional handmade paper industry was revived by promoting access of entrepreneurs to skills development training and improved technologies for paper making as well as paper products development. Village based entrepreneurs were provided credit support through Agricultural Development Bank. The entrepreneurs were also supported to develop marketing linkages to sell their products.

Later local communities and entrepreneurs were provided support on enterprise development planning, developing linkages to CF, accessing technical training, technology, and credit, and developing market linkages to be able to sell their products. With such interventions, entrepreneurs and local communities including forest user groups improved their access to business planning skills and support services, required technical skills on lokta collection to paper production, and improved technologies for lokta paper making. As these enterprises were linked to forest user groups, they also improved access to supply of lokta bark. With the program support, the enterprises also became able to access credit required for enterprise operations and markets to sell their lokta papers.

This increased access of resources to the villagers created a favorable environment for development of village based small enterprises, which contributed local value addition even in

the remote locations. With community based enterprises, poor lokta collectors also became owners of their enterprises, which also created some additional employment in the enterprises and more lokta selling opportunities for many collectors. For example, FUGs and local entrepreneurs in Dolakha developed lokta handmade paper making enterprises. Similarly, Binayak FUG in Bajhang developed Malika handmade paper enterprises to process the lokta bark produced in the region. Many other FUGs opted for organized trading of lokta bark.

These enterprises have provided employment mostly to their poor and disadvantaged members in lokta collection and selling. Some village poor have got jobs in lokta handmade paper companies. According to a research, sales of non-timber forest products in 2001-2002 generated about US\$35 million of annual income to villagers and other market actors (Subedi 2006), while from our survey we found the lokta industry alone provided employment for over 28,000 poor women and men and generated incomes over US \$4 million to the villagers and other market actors in Nepal in 2004. As the enterprises developed in villages adopted value adding activities, improved lokta marketing, provided employment in processing activities and opportunities to sell the lokta bark at good prices, community based enterprises increased incomes to the poor lokta collectors and paper makers,.

Community based enterprise development interventions focused on developing enterprises based on sustainable supply of raw materials and linking these enterprises to the sustainable supply of resources. These enterprises' access to raw materials improved when they were linked to forest user groups to source required raw materials. For example, the handmade paper enterprises established in Bajhang (Malika) and Dolakha (Everest Gateway and Bhimeshwor) are linked to a number of forest user groups in a cluster that supply lokta bark and firewood to these enterprises. This effort has promoted sustainable harvesting of resources and it has ensured sustainability of lokta paper production at least from the perspective of the raw material supply concerns.

The community based enterprise development initiatives have been found to generate the following four major outcomes.

- Increased skills and number of rural enterprises
- Market for Lokta bark and papers
- Local value addition
- Increased income to rural poor (benefit sharing in favor of poor collectors and paper makers)

*International market promotion and Fair trade:* Various efforts of development agencies in international market promotion of lokta paper resulted in increased access of manufacturers and exporters to market information, product designs, and markets for the paper products. The manufactures diversified their products and markets by accessing new niche markets, which led to increased demand for Nepali handmade paper products. This resulted into increased demand for paper sheets leading to increased number of paper production enterprises in the districts. The entrepreneurs improved quality of paper products to meet the market requirements with adoption of technologies and quality control mechanisms as well as improvement in their operational skills and business practices.

As ultimate consumers seemed to more conscious about the social environmental issues, the leading manufacturers adopted fair trade principles and practices. This improved their relation with the paper suppliers as well as with the international buyers. The workers in the factories received fair treatments, while the paper supplying village enterprises received fair prices. As there seems to be a trend of favoring the paper suppliers by the international buyers who can meet the environmental and fair trade standards due to the preferences of their ultimate buyers, more manufacturers are showing interests to take up fair trade practices. Few entrepreneurs have shown commitment to source lokta raw materials only from sustainable forests and have developed a strong linkage with forest user groups. Some of these enterprises have also received FSC chain of custody certification, while others have shown interest in it.

### **Conclusions and recommendations**

The handmade paper value chain is a dynamic, growing and vibrant industry that is vital to thousands of rural poor living in remote villages as well as relevant for the conservation of natural resources. The industry has been providing relatively fair shares of benefits to the harvesters and village based paper producers, who are the main stewards of the forests through their membership in community forest user groups. For this, four groups of policies, namely community based enterprise development, community forestry, international market promotion, and fair trade played significant role in changing the access dynamics that also created synergies among the value chain actors for the industry growth. With these policies in place and the beginning of awareness on the importance of the sustainable supply of raw materials among some value-chain actors, there is a potential of bringing lokta forest under sustainable forest management. However, there is an uncertainty with regard to the huge initial investment required to include lokta in community forest management plan, bring the remaining lokta area under community forestry system, upgrade the quality of plan and implementation to meet the international standards of sustainability and certify the forest management and enterprise operation along the value chain.

The Lokta value chain can further benefit significantly from the following targeted interventions to strengthen its competitiveness, growth, equity, and sustainable forest management.

- Facilitate the paper producers in establishing and strengthening their own association. The associations of forest user groups (Federation of Community Forest Users, Nepal represents Lokta collectors), paper producers (to be formed), paper manufacturers (Handmade Paper Association) can be strengthened to represent their specific group interests, build their member capacity, generate economies of scale, particularly for input supplies and marketing, increase both horizontal and vertical integration, and make the group more attractive to business services providers.
- Increase the production of paper by increasing the capacity of the existing paper producers, expand Lokta collection and paper production in new areas, and promote the establishment of new enterprises.
- Provide training on sustainable Lokta harvesting and post harvest handling to Lokta collectors and on Lokta paper production and quality management to paper producers.

- Further improve technology, efficiency, quality, and marketing capacity of the manufacturers.
- Facilitate common branding of Nepali handmade paper and consortia to improve the marketing capacity of the small manufactures and exporters.

The interventions and research on this industry can also serve as an excellent example for value chain analysis and program development to alleviate poverty in the natural products sector.

## **Reference**