



Handmade Paper in Nepal

Upgrading with Value Chain Approach

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Foreword

Enhancing the competitiveness of Nepal's private sector in order to generate income and employment opportunities is the prime objective of the Private Sector Promotion (PSP) project of German Technical Cooperation (GTZ). The project applies a set of methodologies and tools to implement its impact oriented strategies. Activities are carried out, mainly with private sector partners, in order to transfer knowledge, strengthen capacities, improve structures and thus achieve high sustainability. PSP is working in seven selected subsectors using a value chain approach. Handmade paper has been selected as one of the subsectors with good potential to generate cash income and employment opportunities.

Nepalese handmade paper and paper products are popular in many countries in Europe, North America and Asia. These products, which are almost wholly exported, are facing increased competition from handmade paper/products from countries such as Thailand, the Philippines, China and India due to their superior quality and competitive prices. There is a growing need to improve the competitiveness of the handmade paper subsector in Nepal in order to ensure the employment and income of thousands of rural employees involved in the industry.

In this context, and within the overall framework of the GTZ/PSP project, the value chain approach has been adopted to identify appropriate areas of intervention and form strategic alliances to address the challenges facing the handmade paper subsector. This publication presents an overview of the handmade paper subsector and highlights the issues that need to be addressed to enhance the competitiveness of the subsector.

I appreciate the efforts made by the author in collating and analysing the information and bringing out this publication in this form. I do hope that this publication is useful for policy makers, development agencies, handmade paper entrepreneurs and other stakeholders in designing and implementing interventions in the handmade paper subsector.



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I am grateful to the various stakeholders who took part in the meetings and workshops, providing a wealth of information on various aspects of the handmade paper subsector. I would especially like to thank the Nepal Handmade Paper Association of Nepal, Federation of Handicraft Association of Nepal and Handicraft Design Centre for their support in obtaining the relevant data about the subsector.



GB Banjara



Acronyms

AUSAID	Australian Agency for International Development
BDS	business development services
CBI	Centre for the Promotion of Imports from Developing Countries
CFUG	community forestry user group
CoC	Code of Conduct
CVDS	Conflict Victim and Disabled Society
DCSI	Department of Cottage and Small Industries
DED	German Development Service
DFO	District Forest Office
DFRS	Department of Forest Research and Survey
DOF	Department of Forests
EU	European Union
FGD	focus group discussion
FHAN	Federation of Handicraft Association of Nepal
gsm	grams per square metre
GTZ	German Technical Cooperation
HANDECEN	Handicraft Design Centre of Nepal
HANDPASS	Handmade Paper Association of Nepal
HNCC	Herbs and NTFP Coordination Committee
INGO	international non-governmental organization
MOISC	Ministry of Industry, Supplies and Commerce
MT	metric ton
N/A	not available
NGO	non-governmental organization
NPR	Nepali Rupees
NSCFP	Nepal Swiss Community Forestry Project
NTFP	non-timber forest product
PSP	Private Sector Promotion
RUFIN	Rural Finance Nepal
SDC	Swiss Development and Cooperation
SIP-P	Swisscontact Small Industries Promotion Programme
SWOT	strengths, weaknesses, opportunities and threats
USAID	United States Aid for International Development
VC	value chain
VDC	village development committee



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1 Value Chain Promotion in Nepal by GTZ

1.1 Definition of Value Chain Promotion

A value chain can be defined as a sequence of productive processes from the provision of specific inputs for a particular product to primary production, transformation, marketing and distribution, and final consumption.

According to Kaplinski and Morris (2003) 'value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to consumers and final disposal after use.'

A value chain systematically takes all steps of a production process into account. It analyses the links and information flows within the chain and reveals the strengths and weaknesses (and even losses) in the process. It also analyses the boundaries between national and the international chains, takes into account buyers' requirements and international standards, and allows international benchmarking (Richter 2005). The value chain approach addresses the so-called critical success factors that determine if a product meets market

requirements with regard to quality, price, dependability, volume, design and speed of delivery, and, consequently, improves competitiveness.

Value chains generally include three or more of the following actors: producers, processors, distributors, brokers, wholesalers, retailers and consumers. The partners in the value chain work together to identify objectives; they share risks and benefits; and invest time, energy and resources to make the relationship work. The value chain approach is an actor oriented approach and is very effective in tracing product flows, showing value adding stages, and identifying key actors in the chain and the relationships between them (Schmitz 2005)

Value chain promotion is the development of each stage in the value chain to enhance the competitiveness of the industry. For example, the introduction of new processing technologies can ensure quality production; however, working at the production end of the chain is not enough. This must be coupled with efforts to market and distribute products. Value chain promotion works with all stages of the value chain, thereby having a greater impact on development of the industry as a whole.

1.2 Value Chain Promotion in Nepal

The underlining objective of development cooperation is to alleviate poverty and contribute to the development of a country. Nepal has a predominantly rural population (85%) and a fast growing but small urban population (15%). Poverty is a rural phenomenon in Nepal. In order to uplift the economic situation of the rural poor, the Government of Nepal and many international organizations are supporting rural producers to make use of locally available resources to produce commodities for income generation. However, producing commodities alone will not help rural producers if they cannot sell their products and if there is little value added at their end of the value chain. It is equally important to link rural producers with markets and sustain and grow these links so that they form a perpetual growth cycle of production and consumption.

Connecting rural producers with markets on a sustainable basis is a very challenging task. Value chain promotion helps to build sustained links between rural producers and urban markets.

Globalization has brought with it unique opportunities for developing countries in terms of access to markets for their products. However, in order to be able to benefit from these opportunities, these products must be competitive on global markets. Value chain promotion helps to develop systemic competitiveness by looking at the whole chain of production activities and strengthening the overall production chain.

GTZ has long been involved in economic promotion in Nepal. During the 1980s and early 1990s GTZ initiated the Small Business Promotion Programme, popularly known as the SBPP project. The focus of this project was the development of entrepreneurship in urban centres. The project selected potential entrepreneurs, trained them through entrepreneurship development training programmes and encouraged them to create enterprises.



Between 1998 and 2003, GTZ shifted its attention to the development of the enterprise service market using a business development services (BDS) approach. The main lessons learned in this phase were: (i) in very weak markets like Nepal, the service market itself is highly dependent on the capacity of enterprises to pay for, and benefit from, business development services; and (ii) some of the constraints in certain value chains were outside the scope of the BDS approach and could not be effectively addressed with service interventions alone. To address these issues, the project refocused its priorities from services alone to commodities or value chains.

Nepal became a full member of the World Trade Organization in 2003. Following this development, in June 2004 GTZ focused its attention on the value chain promotion of selected commodities. GTZ initially focused on two sectors, orthodox tea and hand knotted carpets, as part of GTZ's Private Sector Promotion (PSP) programme. GTZ/PSP has now expanded this programme to include five other subsectors, namely bamboo, handmade paper, honey, mandarin oranges, and medicinal and aromatic plants.

1.3 GTZ's Approach to Value Chain Promotion

GTZ/PSP's approach to value chain promotion consists of the following five key steps:

1. Selection of subsectors

In order to identify subsectors suitable for value chain promotion, selection criteria were developed. Based on these criteria and a series of internal meetings of project professionals, as well as external meetings with subsector stakeholders (including industry associations, government officials and lead entrepreneurs in each subsector), subsectors were selected for value chain promotion.

2. Mapping and analysis of value chains

After the selection of the subsectors, a detailed value chain map was developed for each subsector. This was done using a participatory approach in a series of joint workshops with the main stakeholders in each subsector. Based on the value chain maps, a detailed analysis of each subsector was then conducted to identify the constraints hindering the growth of each subsector and the opportunities.

3. Development of intervention strategies

After the value chain mapping and analysis phase, GTZ/PSP again worked with industry stakeholders to identify a common vision for each subsector, to set goals and develop intervention strategies to reach these goals.

4. Interventions and implementation of activities

Based on the agreed intervention strategies, activities were planned and implemented with the

various industry stakeholders. These activities range from improving the production process; ensuring product quality through development of industry codes of conduct and labelling; the development of new markets/products; facilitation of vertical and horizontal business linkages; strengthening the provision of business development services; institutional capacity building; and easing of policy level constraints. Strategic linkages with other donors and supporting institutions working in the various subsectors were actively pursued during this phase.

5. Monitoring and evaluation

Baselines were created in each subsector to measure two important indicators chosen for evaluation: (1) competitiveness (i.e., enterprises in at least five of the seven subsectors say that competitiveness in the subsector has improved compared to February 2005) and (2) value addition (i.e., local value addition in at least five subsectors increased, compared to February 2005). Impact chains were developed to align activities with strategies and expected impacts. A separate advisor was appointed for the monitoring and evaluation of activities in all subsectors. This has helped the project to achieve transparency, as well as objectivity, in the monitoring of interventions and evaluation of results.

A detailed depiction of the above steps is presented in Figure 1.

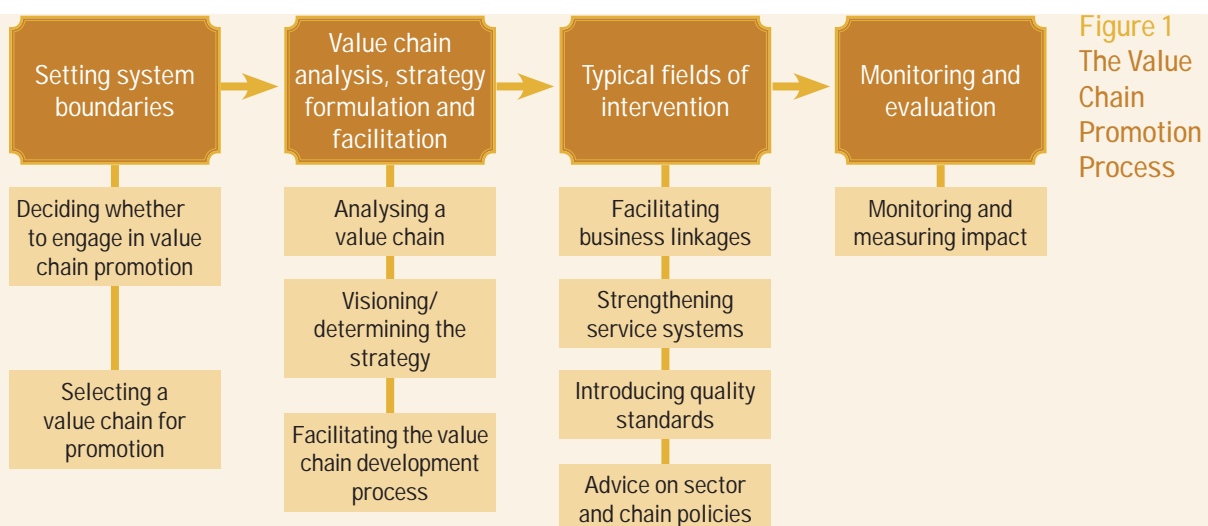


Figure 1
The Value Chain Promotion Process

1.4 Selection Process of Subsectors

In early 2004, GTZ/PSP undertook comprehensive research to identify subsectors suitable for value chain promotion in Nepal. GTZ/PSP was already working in two subsectors, orthodox tea and hand knotted carpets. Other subsectors were selected in consultation with various stakeholders including the Trade Promotion Centre, the Ministry of Industry Supplies and Commerce, Ministry of Agriculture and Cooperatives, INGOs and experts from different subsectors.

The following criteria were identified and used to select subsectors suitable for value chain promotion:

- market demand/growth potential
- unmet market demand
- potential to increase income at rural level
- opportunities for market linkages
- potential for employment generation
- number of small enterprises (outreach)
- potential for value addition
- trade potential/competitiveness
- external environment (e.g. government policies, taxes, etc.)

A SWOT analysis was also carried out for each sector to determine its strengths, weaknesses, opportunities and threats. The subsectors were then mapped in an attractiveness matrix (Table 1).

From the analysis, five new subsectors were chosen for value chain promotion to make a total of seven subsectors (along with orthodox tea and hand knotted carpets) for implementation.

- Bamboo
- Hand knotted carpets
- Handmade paper
- Honey
- Mandarin oranges
- Medicinal and aromatic plants
- Orthodox tea

Table 1
Subsector Attractiveness Matrix

Potential to Increase Rural Incomes and Alleviate Poverty	High		Bamboo	Attractive: Handmade paper Honey Mandarin oranges Medicinal and aromatic plants
	Medium		Silk	Veterinary services Wool
	Low	Not Attractive: Trout Farming Ginger Domestic Tourism Dairy		
		Low	Medium	High
Potential Market Demand				



2 Handmade Paper in Nepal

2.1 History of Handmade Paper

The invention of paper can be regarded as the beginning of the knowledge era in human history. Even before paper, people drew objects and characters on cave walls, rocks and dry leaves. However, it was only possible to write books and print money after the invention of paper. It is believed that paper was first invented in China about 2000 years ago.

Handmade paper-making is a traditional craft of the inhabitants of rural Nepal. Since the 12th century AD, traditional handmade lokta paper has been produced in the hills of rural Nepal (Biggs 2005). Lokta paper has historically been used in Nepal for all government documents and religious texts. Until 1959, it was compulsory for all government legal correspondence to be done on lokta paper. Even today, most Nepalis have their birth certificate (janampatri) on handmade paper and all land ownership papers (lal purja) are also still written on handmade paper.

In addition to government offices, the biggest demand for handmade paper previously came from Buddhist monasteries as they printed, wrote and drew the teachings of Buddha on lokta handmade paper. More recently, tourism has created a demand

for lokta paper and paper products including stationery, lamp shades, wall paper and wrapping paper. Many urban Nepalis now use greeting cards, visiting cards and invitation cards made from handmade paper.

There have been some technological innovations in the production of handmade paper in Nepal. Producers can now offer a larger variety of colours due to modern 'dip dyeing' techniques and paper can now be made smooth for writing and printing through the calendaring process. Techniques for cutting, pasting and binding are also improving day by day.

The modern handmade paper industry in Nepal started in the 1980s with the establishment of Bhaktapur Craft Printers, a UNICEF supported project. This company was created to provide employment opportunities for the people in Baglung, Parbat and Gorkha districts. Since the 1990s, a few private sector companies have also started producing handmade paper and paper products for export and the tourist market. The handmade paper industry in Nepal currently employs about 4000 families in rural areas in paper making and another 2500 people in Kathmandu in paper product making.

2.2 Handmade Lokta Paper

Handmade paper is the paper formed from pulp using a hand-held mould, matrix or other device. Although the most printers and publishers now use machine made paper, handmade paper is widely used as a form of artistic paper and to make interesting stationery and handicraft products.

Handmade paper in Nepal is categorized according to the raw material from which it is made. There are two main types of handmade paper in Nepal: lokta paper and argeli paper.

Lokta paper is made from the inner bark of a wild shrub locally known as lokta (*Daphne papyracea* and *Daphne bholua*). The lokta plant grows naturally in most coniferous forests in Nepal at an altitude of 2000m to 4000m. According to the Handmade Paper Association of Nepal (HANDPASS), there is about 110,481 metric tons of raw lokta (bark) available in Nepal. Of this, it is estimated that only 800 to 1,000 metric tons is collected each year.

Argeli paper is made from the bark of the argeli plant (*Edgeworthia gardeneri*), a fast growing shrub with a unique triangular branching pattern. The white skin (bark) of the argeli plant is extracted, dried and most of it is exported to Japan in its raw form where it is used to make Yen, the Japanese currency. Argeli is also mixed with lokta to make

paper but it is less preferred by producers in Kathmandu as argeli mixed paper cannot be dyed using the dip dyeing process.

Both lokta and argeli plants are from the Daphne family although, in terms of their fibre strength and other fibre characteristics, they are very different. Lokta fibre is stronger than argeli fibre. The argeli plant can be commercially cultivated as its growth cycle is faster (2–3 years). Lokta, on the other hand, is a naturally occurring plant and is not cultivated. Once cut, lokta takes six to eight years to regenerate to a point where it is ready for extraction.

In the current phase of the project, GTZ/PSP has been working exclusively with lokta paper and paper products for value chain promotion in the handmade paper subsector.



A lokta plant

2.3 Characteristics and Uses

Lokta paper is known for its durability and inherent resistance to insects. The lokta fibre is possibly one of the longest and strongest natural fibres in Nepal. Thus, paper made from lokta fibre is very strong. The uneven distribution and length of fibres gives lokta paper a unique texture. Most papers dissolve when put into colour solutions; lokta paper does not. Therefore, lokta paper can be dyed using the dip dyeing process. The flexibility of this process gives enormous possibility for designs and colours in lokta paper.

Handmade lokta paper is used to make various products in Nepal, which find good markets in

Europe, the USA and Japan. Popular products made from handmade paper include diaries, notebooks, lamp shades, writing sets, photo albums and frames, coloured and plain sheets, gift boxes, bags, greeting cards, wrapping paper and other decorative products.



Lokta bush

Virtually anything can be made from paper, from toys to fashion garments. The range of products that can be made from paper is limited only by the imagination.



Sizing paper pulp in a wooden frame

2.4 Lokta Paper Making

The lokta plant is found in 52 of the 75 districts of Nepal, all of them hill districts (Dongol 2003). However, paper production is currently done in only 32 districts. Until the beginning of 2003, about 313 handmade paper enterprises were registered with the Department of Cottage and Small Industries (DCSI). Of them, 268 were registered as cottage industries and 45 as small-scale industries. Of the registered industries, about 170 enterprises are currently in operation in different parts of the country providing employment to approximately 4000 families. Women constitute about 80 percent of those employed in lokta paper making. A typical paper-making factory has an investment level of about NPR 30,000 to NPR 200,000.



Raw lokta paper sheet

Paper making is a manual process. Paper is produced in batches, each batch consisting of 5 dharni (12.5 kg) of lokta raw material for processing.

The collectors peel the raw bark from the lokta bush in the forest and dry it in the sun to reduce the weight. The dried bark is carried to the village by porters where paper is produced. The lokta is immersed in water to soften and it is cleaned to remove the black spots and impurities. Lokta soaking operation is usually done at night to save the time. The cleaned lokta is cooked in a 100 litre drum in a mixture of water and caustic soda. The cooked lokta is washed with clean water to remove the caustic soda. The clean lokta is then beaten with a wooden mallet to make it into pulp. In some villages where electricity is available they are using mechanical beater now a days. The softened pulp is then moulded in 20 inch x 30 inch wooden frames by spreading the thin pulp (with a proper mix of water and pulp) to make flat sheets of paper. The frames are dried in the sun, after which the paper is taken out of the frame.

The five main handmade paper producing districts are Jajarkot, Dailekh, Bajhang, Rukum and Solukhumbu. Other prominent districts where lokta paper is produced are Sankhuwasabha, Baglung, Parbat, Myagdi, Ramechhap, Dolakha, Sindhupalchowk, Ilam and Taplejung. The paper sheets are produced in these districts, then brought to Kathmandu valley where they are made into different products for export.



Paper Colouring process



Production of notebooks

2.5 Paper Product Making

There are about 100 paper product enterprises in Kathmandu directly employing a total of 2,500 people. In February 2006, GTZ/PSP conducted a sector survey of 30 representative paper product enterprises. The majority (77%) of these enterprises were run by sole proprietors or as partnerships; six (20%) of the 30 were registered as private limited

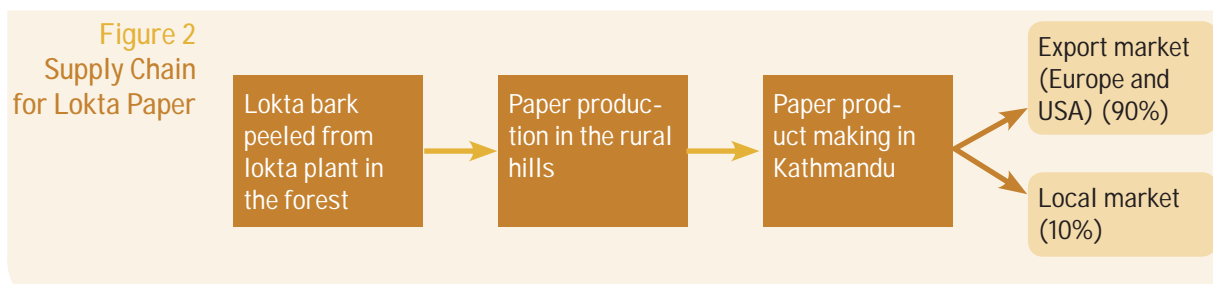
companies; and one was registered as a cooperative. Most of the enterprises are run as family businesses. The average sales turnover in the year 2005 for each of these enterprises was NPR 9.5 million. The average number of clients per enterprise was eight and the average number of countries exported to per enterprise was six.

2.6 Lokta Paper Supply Chain

Lokta paper is one of those rare products from Nepal in which all the elements of the supply chain are based on local resources. Paper making uses local raw materials, local labour and local expertise (technology). Value addition takes place both in urban as well as rural areas. Income is shared by both rural and urban people. Therefore, the promotion of quality paper/product-making has great potential to alleviate rural poverty in the hill districts of Nepal.

Lokta paper making is a seasonal business in the hills. Typically, lokta paper making begins in November and ends in June before the start of monsoon. The raw paper made in the hills is brought to Kathmandu and sold to paper product manufacturers. The paper product makers produce various stationery and handicraft items and export them to mostly to Europe and America. Ninety percent of paper products made in Kathmandu are exported; the remaining 10 percent are sold locally. Paper product making in Kathmandu continues year round.

A highly simplified supply chain for lokta paper making in Nepal is shown in Figure 2.



2.7 Major Actors in Subsector

2.7.1 Lead Organizations

Along with GTZ/PSP, the lead organizations which are involved in promotion of handmade paper subsector are:

1. Handmade Paper Association of Nepal (HANDPASS)
2. District paper maker associations
3. Federation of Handicraft Association of Nepal (FHAN)
4. Department of Cottage and Small Industries (DCSI)
5. Department of Forest Research and Survey (DFRS)
6. Community forestry projects

The **Handmade Paper Association of Nepal (HANDPASS)** is an association of both paper makers and paper product manufacturers/exporters, although paper product makers in Kathmandu mostly dominate its membership base. HANDPASS was established in 1996 and currently has 80 members. Of these 80 members, 14 exclusively make paper; the rest make paper products. The association is quite strong and active in providing services to its members. GTZ/PSP is closely collaborating with HANDPASS in implementing interventions in the subsector and working to build the capacity of HANDPASS to be the lead organization in the subsector.

In recent years, **district paper maker associations** (formed by local entrepreneurs) are active in a few district, e.g., the Dolakha District Paper Makers Association and the Ramechhap District Paper Makers Association. These associations are often weak and dominated by a few large paper makers.

The **Federation of Handicraft Association Nepal (FHAN)** is an umbrella association for handicraft producers in Nepal. It has a well functioning secretariat and office infrastructure. Its services to members include training, seminars and the organization of local exhibitions. It also facilitates members to participate in international trade fairs and expos. FHAN is responsible for issuing exporters with the export origin certificate. FHAN has several committees and sub-committees under it. One of them is Handmade Paper Product Development Committee. FHAN also co-finances

promotional activities for the promotion of handmade paper. In order to provide the design related services to the entrepreneurs, FHAN with support from the Government of Nepal has established and managed Handicraft Design Centre of Nepal (HANDICEN).

The **Department of Cottage and Small Industries (DCSI)** is a government department under the Ministry of Industry, Commerce and Supplies. The DCSI has a training institute of its own and provides training to paper makers on a regular basis.

The **Department of Forest Research and Survey (DFRS)** is responsible for lokta research and the survey of lokta inventory in the national forests of Nepal. Based on their survey, the District Forestry Offices (DFOs) allocate annual quotas of lokta to the local producers for harvesting.

There are several **community forestry projects** operating in various hill districts all over Nepal. Community forestry projects work through community forestry user groups (CFUGs). These donor supported community forestry projects usually cover an entire district. For example, the AUSAID supported Australian Forestry Project is working in Sindhupalchowk district; while the SDC



Mapping of stakeholders



Discussion of stakeholders

supported Nepal Swiss Community Forestry Project (NSCFP) operates in Dolakha and Ramechhap districts. These projects initially worked on conservation, but now the focus has shifted to the sustainable use of forest resources by the local community for income generation and improved livelihoods. Community forestry projects work directly with CFUGs and, therefore, play an important role in ensuring the supply of lokta on a sustainable basis. Many of these projects are starting

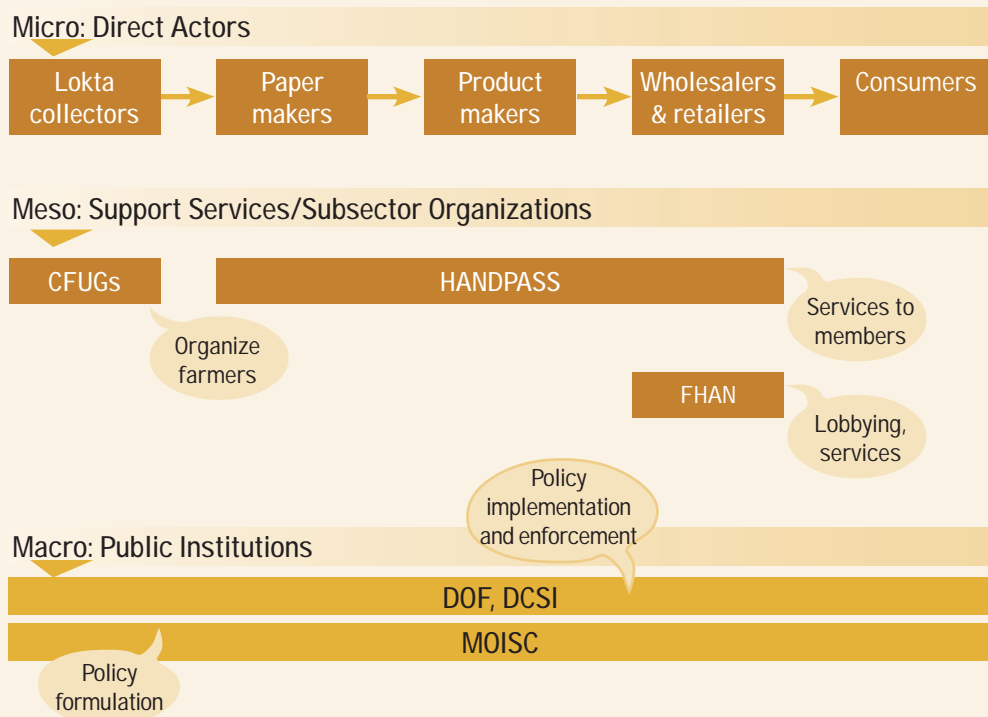
enterprise development units based on NTFPs (non-timber forest products).

Organizations such as **Swisscontact-Small Industries Promotion Programme (SIP-P)** and **Centre for the Promotion of Imports from Developing Countries (CBI)** have provided support to this sector in the past mainly in the area of quality improvement of paper and paper product making and export promotion.

2.7.2 Map of Actors and their Functions

The micro, meso and macro level players in the subsector are shown in Figure 3. At the micro level, there are the lokta collectors, paper makers, product makers, wholesalers and retailers. At the meso level there are various associations and groups including HANDPASS, FHAN and CFUGs, which provide business development services to the industry and lobby government bodies in relation to policy. At the macro and policy level, there are institutions such as the DCSI, the Department of Forests (DOF) and the Ministry of Industry, Supplies and Commerce (MOISC), which formulate and implement policy.

Figure 3
Major Actors in the Handmade Paper Value Chain and their Functions





3 Analysis of Value Chain

3.1 Value Chain Map

The value chain map of the handmade paper subsector is depicted in Figure 4. It was developed under the professional supervision of GTZ/PSP in various strategic workshops involving all the key and relevant stakeholders in the subsector. The value chain map outlines the actors involved in the industry, from cultivation/collection of raw materials to production of paper and paper products, and distribution to the domestic and export markets.

The value chain map also explains the interrelationship between actors at different levels in the chain. The different functions of the actors in the value chain include lokta bark collection, transportation of lokta from the forest to the nearest paper making village, production of lokta paper by rural producers, transportation of lokta paper in bulk sheets to Kathmandu for paper product making and, finally, distribution to local (10%) and export (90%) markets.

Income is distributed down the value chain (as indicated by the arrow on the right) from large buyers in Europe and the USA to the paper product makers in Kathmandu, eventually reaching the

paper makers/cooperatives and lokta collectors/cooperatives at the village level. The market orientation (represented by the arrow on the left) shows the direction of the product flow from bark collection to paper production to product manufacturing and distribution, with all the steps in between.

The handmade paper subsector can be broadly divided into two types of supply channels (Figure 4):

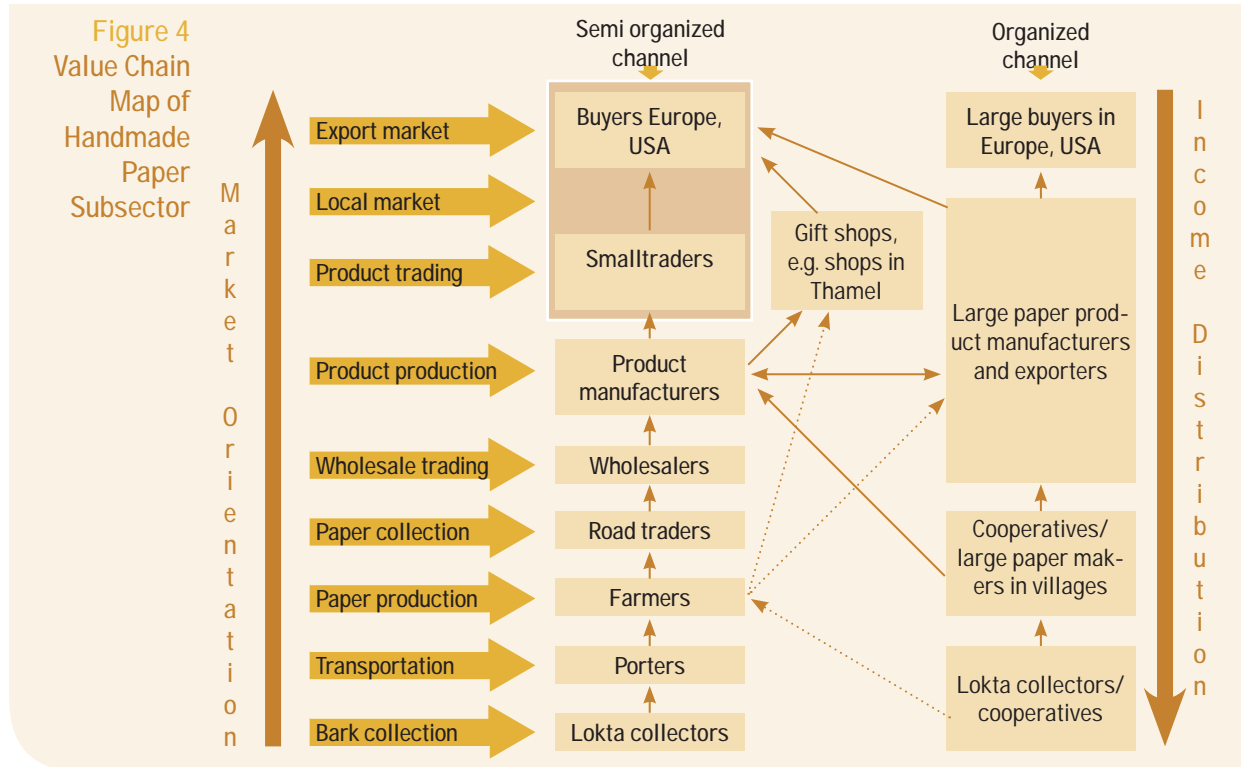
1. Semi-organized channel
2. Organized supply channel

The semi-organized channel is made up of many small players, such as the lokta collectors who eke out their livelihood by collecting lokta from the forest and selling it to local transporters and village paper makers. The paper produced by these small rural producers is purchased by various small intermediaries such as road head traders and small paper makers who on-sell it to small paper product manufacturers in Kathmandu.

The organized supply channel is made up of a few organized paper makers (usually cooperatives)

operating in at the district level, who are vertically integrated with the bigger paper product makers in Kathmandu. Some of these cooperatives/large paper makers have direct investment from a large paper product maker. The cooperatives/large paper makers have more bargaining power with their buyers in Kathmandu than small rural producers and enjoy lower production costs due to economies of scale.

The arrows linking the organized channel and the semi-organized channel indicate the strength of the relationship between actors in each channel. For example, the dotted arrow linking farmers to large paper product makers indicates a weak link. Large paper product makers often prefer to source paper from the cooperatives/large paper makers as they generally provide better quality paper and larger quantities (indicated by the solid arrow).



3.2 Market Analysis

3.2.1 Domestic Market

Although handmade paper has been widely used by the Government of Nepal for many years, its domestic use is not growing significantly. Reliable data in relation to domestic consumption is difficult to obtain. Most of the low quality paper that is rejected by the large export buyers ends up on the domestic market. Entrepreneurs estimate that the local market for lokta paper is not more than 10 percent of the total market. Lokta paper is expensive compared to ordinary paper, thus, its use by local consumers is limited by affordability. Domestic consumption is also limited by the lack of serious marketing efforts by local companies. Popular handmade products in the local market include marriage cards, visiting/business cards and files/folders.



Local exhibition

3.2.2 Export Market

The export of handmade paper products has increased consistently over the last nine years. According to the FHAN, handmade paper products are the fifth largest export product in the handicraft category (after pashmina products, woollen products, silver jewellery and metal statues).

The export figures in Table 2 show that handmade paper products have registered a steady and healthy growth in terms of exports over the last decade. The top five export destinations for handmade paper are the USA (28%), UK (20.4%), France (16.2%), Japan (6.1%) and Switzerland (5.1%). Together these five countries account for about 76 percent of total exports (FHAN 2006). Sixty-five percent of handmade paper products go to EU countries, making the EU the largest market for Nepali handmade paper products. According to CBI market research, the total market size for handmade paper in the EU is estimated at 24.5 million Euros. The top export items to the EU are office paper, writing pads, files, folders, binders and exercise books, followed by envelopes.



International exhibition

3.2.3 Customer Profile

Typical customers of handmade paper in Europe are people who are conscious of handmade products and who love collecting or giving exotic gifts. According to handmade paper entrepreneurs, psycho-graphical profile of a typical handmade paper buyer would be a female in her forties/fifties with fine taste for handmade products. She may love exotic products, she may be environmental conscious and she would be sympathetic towards products made by poor people in developing countries. However, according to some entrepreneurs, handmade paper products are also being increasingly purchased by young consumers who have no such stereotypical image.

3.2.4 Distribution Channels in Europe

Handmade paper is being sold in EU through five main channels: shops for alternative goods, shops for stationery and gift items, papeteries (European speciality paper shops) shops, flower shops and Internet shops (Figure 5).

Fiscal Year	Export Value (Million NPR)	% Increase Since Previous Year	% of Overall Export of Handicraft Products from Nepal *
1997/98	96	43.8%	N/A
1998/99	138	32.6%	10.6%
1999/00	183	3.8%	2.5%
2000/01	190	27.9%	2.8%
2001/02	243	13.2%	8.9%
2002/03	275	9.5%	10.7%
2003/04	301	-12.6%	11.7%
2004/05	263	2.3%	9.2%
2005/06	269		9.3%

Table 2
Export Trends
for Nepali
Handmade
Paper
1997–2003

* Compared to the total handicraft product exports for the same year

Source: Federation of Handicraft Association of Nepal (2006)



A market survey carried out by GTZ in June 2006 found that lokta paper is currently being distributed only through shops selling alternative or exotic goods. Only a limited number of buyers who love exotic products from developing countries tend to buy Nepali lokta paper products from these shops. There is huge potential to promote lokta paper products through mainstream channels. However, due to the lack of marketing efforts, most Nepali exporters have not been able to promote their products through these channels. To market through these channels, the Nepali handmade paper industry has to meet the quantity and quality requirements of the mainstream market.

3.2.5 Product Concentrations

Despite the diversity of products that can be made with handmade paper, most entrepreneurs are

dependent on about four or five products. The overwhelming majority of entrepreneurs are producing diaries/notebooks and coloured sheets (Table 3). Both of these products are the most basic traditional paper products, indicating a low level of sophistication in product development.



Table 3
Product Concentration 2001 and 2004

Product	Year 2001	Year 2004
Diaries/notebooks	80%	80%
Lamp shade	52%	15%
Writing sets, stationery	46%	45%
Photo album/frames	42%	30%
Coloured /plain sheets	40%	80%
Gift boxes	18%	20%
Bags	20%	5%
Greeting cards	20%	15%
Wrapping paper	8%	30%
Decorative items	4%	4%

Source: BISCONS (2000) FGD with paper product entrepreneurs, May 2004

3.2.6 Market Share of Producers

Table 4 shows the relative market share of large and small producers. Like in most industries, the field is dominated by a few large enterprises, while many small operators compete for the remainder. The top five producers of handmade paper products in Nepal

hold 64.3 percent of the market share, the middle 20 producers hold 21.5 percent, the lower middle 20 hold 10.7 percent and the majority (bottom 50) hold only 3.5 percent of the market share. Small enterprises need to increase their market share or they will be uncompetitive in the long run.

Category of Producers	Market Share (Million NPR)	% Market Share	% Cumulative Market Share
Top 5 producers	180	64.3%	64.3%
Middle 20 producers	60	21.5%	85.8%
Lower middle 20 producers	30	10.7%	96.5%
Bottom 50 producers	10	3.5%	100.0%
Total (estimate for 2004)	280	100.0%	

Table 4
Market Share of Producers

Source: FGD with paper product entrepreneurs, May 2004

3.3 Economic Analysis

3.3.1 Price Trends

All the paper sheets produced are 20" x 30" inches in size. This is due to the limited technology used by rural producers (farmers use standard frames 20 x 30 inches in size).

Thick paper fetches a higher price than thin paper because it requires more raw materials. In terms of demand and value, the most popular paper is 40 gsm followed by 20 gsm.

Table 5 shows that the price of lokta paper increased between 2001 and 2004. However, prices virtually stagnated between 2004 and 2006. Considering inflation and increases in the production costs (e.g., wages and transportation costs), the increase in the price of lokta paper between 2004 and 2006 is not sufficient from the rural paper makers point of view.

3.3.2 Competitiveness

The competitiveness of the handmade paper subsector was analysed using Porter's Diamond¹. According to Porter, there are four home base factors or conditions that support or hinder organizations from being competitive in global markets.

1. Demand conditions
2. Factor conditions
3. Related and supporting industries
4. Firm strategy, structure and rivalry

Demand Conditions: A more demanding local market creates national advantage. For example, a trend-setting local market helps local firms to anticipate global trends. Handmade paper is

¹ Michael Porter in his book, 'The Competitive Advantage of Nations,' proposed a model consisting of determining factors of national advantage known as Porter's Diamond.

Paper Size (Inches)	GSM	Average Price per Sheet*		
		2001	2004	2006
20x30	40	NPR 13	NPR 15–16	NPR 16
20x30	20	NPR 7	NPR 7–8	NPR 8
20x30	15	NPR 4	NPR 6–7	NPR 7
20x30	10	NPR 3	NPR 4	NPR 4
20x30	5	NPR 2	NPR 3	NPR 3

Table 5
Price Trends for Handmade Paper

*Wholesale price e.g. the price that the paper traders charge to the paper product manufacturers

Source: FGDs with subsector entrepreneurs in May 2004 and December 2006

primarily considered an export product in Nepal and only a nominal domestic market exists. Hence, local demand conditions do not encourage national competitive advantage.

Factor Conditions: Factor conditions are basically production factors and include the availability of skilled human resources, technology, capital and infrastructure. Local disadvantages in relation to production factors force innovation. In other words, adverse conditions such as labour shortages or scarce raw materials force firms to develop new methods, and this innovation leads to a national competitive advantage. One of the arguments in favour of the handmade paper industry is the cost advantage accruing from cheap labour. If we look at this using Porter’s theory, this factor has actually stifled the innovation potential of the subsector. Experts have opined that we are actually wasting our important resource, lokta, by exporting low value, low cost products produced using cheap labour and low cost, primitive technology.

Industry Strategy, Structure and Rivalry: Local conditions, such as the number of enterprises, the size of enterprises and domestic rivalry affect firm strategies. While a firm may prefer less rivalry, more local rivalry is better for the industry in the long run as it puts pressure on firms to innovate and improve. Local rivalry in handmade paper subsector is

somewhat intense due to the large number of small firms which are producing the similar products.

Related and Supporting Industries: When local supporting industries are competitive; firms enjoy more cost effective and innovative inputs. This effect is strengthened when the suppliers themselves are strong global competitors. There are virtually no local supporting industries for the handmade paper subsector in Nepal, despite the fact that the Nepali handicraft sector as a whole is diverse and growing.

According to Porter’s Diamond, the competitiveness of the handmade paper industry is favourable in terms of demand conditions and industry structure whereas neutral in terms of factor conditions and support industries (Annex 1). There is much that can be done to make this subsector more competitive.

3.3.3 Distribution of Value and Value Addition

Value chain analysis looks at where value is being created and how margins are being distributed across the whole value chain. Table 6 shows the distribution of operating margins across the value chain for the production of a standard 40 gsm paper sheet. Usually, the lokta collector does not receive a profit share but is paid a daily wage. The paper product maker collects, on average, NPR 10 per sheet, which is approximately 10 times more than the paper maker.

Table 6
Distribution of Costs and Margins across Value Chain

	Lokta collector	Paper maker	Product maker	Consumer Europe
Sales Price/Sheet	NPR 1	NPR 7	NPR 40	
COGS*/Sheet	NPR 1	NPR 5	NPR 15	
Gross Margins/Sheet	0	NPR 2	NPR 25	
Sales and Admin Costs	0	NPR 1	NPR 15	
Operating Profit	0**	NPR 1	NPR 10	

* COGS is cost of goods sold ** The lokta collector is paid a daily wage and, hence, does not earn an operating profit.

Note: The figures used in this table are for a standard 40 gsm sheet of paper.

Table 7
Distribution of Value Addition across the Value Chain

	Lokta collector	Paper maker	Product maker	Consumer Europe
Sales Price/Sheet	NPR 1	NPR 7	NPR 40	NPR 270
Cost of Raw Materials	0	NPR 1	NPR 7	NPR 40
Gross Value Added	0	NPR 6	NPR 33	NPR 230
% Value Added				
To International Price	0.4%	2%	12%	85.6%
To National Price	2.5%	15%	82.5%	



Table 7 shows the distribution of the value addition across the value chain. Value addition is the difference between the sales price and the cost of the input (raw material) at each stage of the value chain. Lokta collectors value add comprises of a mere 0.4 percent of the total value addition based on the international price and only 2.5 percent of total value addition based on the local price. Product makers contribute almost 12 percent of the value addition based on the international price and 82.5 percent based on the local price.

Looking at Table 6 and 7 together, it can be inferred that the net profit for paper makers is low because of the low level of value addition at this stage. Most of the value addition is taking place at the product level in Kathmandu and, hence, there is a higher level of profitability at this level.

3.3.4 International Benchmarking

As lokta paper is an export oriented product, it is useful to know the production cost of similar products in competing countries (i.e., to give a benchmark). Thai mulberry (*Saa*) paper production was taken as a similar product for comparison (Table 8). The production cost of lokta paper per sheet (20 gsm, 20 x 30 inch) is nearly 45 percent lower than Thai *Saa* paper. This lower cost of

production is achieved mainly due to Nepal's lower raw material and the labour costs. Most of the raw material used to make Thai saa paper comes from neighbouring countries such as Laos, Cambodia and Myanmar, increasing the cost.

3.3.5 SWOT Analysis

The handmade paper subsector has many strengths. Lokta paper is unique and is currently produced only in Nepal. There are many geographically diverse markets for lokta paper including the USA, Europe, Australia and East Asia. The diversity of markets is matched by the diversity of the products that can be made from lokta paper. With each product, potential new product markets can be explored.

However, the handmade paper industry is currently limited by the low quality of paper being produced. There is no standardization of paper and paper products and the industry lacks skills and techniques, particularly in relation to design. Only a small fraction of the total lokta resources available have been tapped so far. However, lokta



Discussion of entrepreneurs during SWOT analysis

Cost Component	Thai Saa Paper		Nepali Lokta Paper	
	Cost/Sheet (NPR)	% of Cost	Cost/Sheet (NPR)	% of Cost
Raw material (dried bark)	3.6	44%	2.3	52%
Fuel	0.2	3%	0.3	7%
Chemical (pulp making)	1.6	20%	0.3	7%
Labour	2.7	33%	1.5	34%
Other costs (local taxes, transportation, etc.)	NA		NA	
Total variable cost (per 20 gsm sheet)	8.1	100%	4.4	100%

Table 8
International Benchmarking:
Thai Saa Paper and Nepali Lokta Paper

Sales price: Thai paper NA | Lokta Paper NPR 7.5

resources are fast being depleted in more easily accessible districts, such as Dolakha and Ramechhap, resulting in increased raw material costs. The handmade paper subsector has an increasing and unlimited market potential. If more lokta resources could be tapped in a sustainable way, Nepal could expand into more lucrative niche markets. Competition from countries such as China and

India, difficulty in keeping pace with the fast changing market tastes and the price war between many of the small players are some of the prominent threats facing the subsector.

Table 9 gives an overview of the strengths, weaknesses, opportunities and threats facing the handmade paper subsector.

Table 9 SWOT Analysis– Handmade Paper	Strengths		Weaknesses	
	Export oriented product with geographically diverse markets		Crude technology used in lokta paper making is resulting in low quality	
	Diversity of products that can be produced differentiation (many different products can be made)		Lack of standardization and poor quality of handmade paper products	
	Almost all raw materials and skills are local		Confusion in relation to product positioning	
	Low capital investment required		Lack of qualified technical and design expertise able to meet export requirements	
	Unique features of lokta fibre, which is basically available only in Nepal			
	Low production costs compared to other handmade paper countries (e.g. Thai Saa paper)			
	Opportunities		Threats	
	Niche market opportunities (emotional buyers influenced by products being handmade in a poor country)		Dwindling resource base of lokta in accessible areas may threaten the supply of raw materials	
	Only a small fraction of the total lokta potential has been tapped so far		Unhealthy competition resulting in lower quality and price wars	
Increasing and unlimited market potential		Fast changing consumer tastes and few feedback mechanisms		
		Better quality and competitively priced products from other countries		

3.4 Constraints

3.4.1 Fragmented Industry

There are too many small paper makers involved in the collection of raw material and production of paper and, as a result, there are no economies of scale. Many of these small players add little or no value to the final product. These small, fragmented micro-entrepreneurs often compete with each other by price cutting, which eventually makes everyone poorer. There are huge inefficiencies and very low levels of productivity, particularly in the unorganized channel.

There is also a very low level of coordination between small paper makers and large paper product makers. If a paper product maker cannot

meet a large export order, they often drop the order rather than coordinate with smaller manufacturers. However, following the collaborative marketing initiatives of HANDPASS, this situation is improving.

3.4.2 Over-exploitation of Lokta

In the more easily accessible areas, lokta resources are being depleted. Lokta has been continuously harvested in some districts, without rotational management, for several years. This has resulted in a shortage of lokta. In addition, poor quality (not well dried and whitish in colour) and immature/undersized lokta has started to enter the market due to a lack of knowledge of cutting and sorting.

3.4.3 Paper Production Constraints

There are many constraints on the production of paper including:

- Insufficient quantities of raw material for paper making factories to run at full capacity.
- Priority is given to quantity rather than the quality of paper produced (due to the piece rate system).
- Lack of trained and highly skilled manpower, which leads to inefficiencies and low quality.
- Untrained workers, combined with a lack of quality control/grading knowledge at each stage of processing, leads to a high rate of rejection by buyers in Kathmandu.
- Lack of sufficient water for cleaning lokta is another constraint on quality.
- Farmers usually do not have any long-term production and inventory planning mechanism.
- Lack of product diversification in paper making; only a standard sized paper (20 x 30 inches) is being produced. Many established factories in Kathmandu are now bringing lokta directly from the districts (illegally) so that they can make paper according to their own requirements.
- Lack of financial resources for high volume production.
- Lack of basic managerial skills. Most of the paper makers in the villages are farmers who produce paper on a seasonal basis only. They do not maintain business records; in fact, there is no documentation whatsoever.
- Lack of marketing skills leaves paper makers at a disadvantage when negotiating with buyers in Kathmandu. There is a lack of organized and diversified markets. Most paper makers are contracted by the middle-men. There is negligible direct contact between paper makers and manufacturers in Kathmandu.

3.4.4 Design Skills and Technology

Most handmade paper product manufacturers depend heavily on their buyers for design and product innovations. Some of the big manufacturers, such as Nepali Paper Products Pvt. Ltd. and Gate Paper, even have foreign designers sent to work with them by the buyers. However, for most of the small producers, lack of design skills is a big constraint. There are no competent local designers available and the few entrepreneurs who are good at design do not want to share their skills with others.

A consultant² who visited to Nepal to train local manufacturers on book-binding techniques had to say this in his final report (Mueller 2002):

The equipment used is so modest that it is unbelievable that such (appreciable) quality can be achieved. Due to the lack of machinery, nobody is able to produce as per specifications of an order. All producers are focused on serial production and export to Europe and USA.

Mr Mueller further added that:

In most factories I visited, I could spend one day. In some factories this led to instant relevant changes; in other factories nobody was available with the competency and initiative to accept innovations.

In his report, Mr Mueller recommended that a practical training institute be established and equipped like a factory offering specific courses, short term courses on special subjects and complete vocational training.

3.4.5 Policy Level Constraints

The Government of Nepal has not yet been able to introduce a systematic lokta harvesting management plan and resource inventory in lokta harvesting districts. Although lokta harvesting is regulated by permits, in many government controlled forests these permits are being violated. Lokta permits, issued by the District Forest Office (DFO), are often issued late (in December/January), instead of in September, which is the ideal time for lokta collection. Lokta is also illegally collected by cutters from neighbouring districts. Boundary lines for lokta collection are also not clearly defined, which results in haphazard cutting and encroachment on forests.

Forest officials sometimes give licences to more number of factories than lokta resources can sustain. In one village development committee (VDC), licences were issued for 34 factories, when the lokta resource of the VDC could sustain only three.

There is also the problem of multiple taxation. Farmers have to pay a fees at all stages of the process from obtaining a permit for lokta collection, to the release of paper into Kathmandu (*chhut purjee*). Multiple checks along the highways by security forces cause further problems for paper makers.

² Markus Mueller, Manager of Basel Paper factory in Switzerland



Innovation in paper a paper chair

4 Value Chain Upgrading Strategy

4.1 Vision, Goal and Strategy

Given the tremendous potential of the handmade paper subsector, GTZ/PSP has chosen handmade paper as a focus sector under its subsector promotion component. GTZ/PSP focuses on reducing poverty by enhancing competitiveness and local value addition in order to generate income and employment. GTZ/PSP has the following shared vision, goal and strategy to promote this subsector in collaboration with the stakeholders.

Vision: To position the handmade paper subsector among the top three exporting handicraft subsectors in Nepal.

Goal: To increase the export volume and value of handmade paper; increase the provision and use of

business development services; increase the productivity and quality of paper making; and ensure the sustainable exploitation of lokta resources.

Strategy: In order to achieve this goal a market-oriented upgrading strategy was developed using the value chain approach. The strategy focuses on a number areas of intervention:

1. Strengthening capacity of paper makers
2. Strengthening capacity of product manufacturers
3. Market promotion
4. Institutional capacity building

4.2 Strengthening Capacity of Paper Makers

During a focus group discussion organized by GTZ/PSP with HANDPASS members in May 2004, handmade paper makers in Dolakha were asked to

identify their most pressing concerns/industry constraints and come up with ways to address these constraints.

The paper makers identified the unsustainable harvesting of lokta resources and lack of quality paper production as the main constraints on the industry and suggested the following activities/ services to strengthen the capacity of paper makers:

- transfer of skills in lokta cutting and debarking
- training for high quality paper making
- development of alternatives to firewood for lokta cooking
- standardisation of lokta paper
- grading of paper based on quality
- national and international exposure visits for paper makers

As a result of the feedback given by paper makers in this FGD, GTZ/PSP developed its strategy to strengthen the capacity of paper makers. As part of this strategy GTZ/PSP is working together with industry partners to facilitate research on the cultivation of lokta towards sustainable harvesting. GTZ/PSP is also facilitating training and exposure visits to improve the quality of paper making and encourage paper makers to organize themselves into cooperatives so that they can better access business development services (BDS) and as a platform for negotiating with buyers.

4.3 Strengthening Capacity of Product Manufacturers

GTZ/PSP's strategy in relation to paper product manufacturers focuses on product design and the development of high value products. GTZ/PSP is working with industry partners to improve the capacity of paper product makers to produce innovative, high quality products in more cost effective manner and enhance the marketability of their products. To achieve this GTZ/PSP has two main strategies:

1. Development of an industry code of conduct
2. Improving skills through training and technology

Other measures which need to be taken in this subsector include design improvement, product specialisation and improved linkages between small and large players in the supply chain to facilitate sub-contracting.

4.3.1 Code of Conduct

GTZ/PSP supported HANDPASS to develop an industry code of conduct. The objectives of the Code of Conduct (CoC) are to:

- i. Develop a mutual understanding among the members of HANDPASS and the producers and the exporters of the Nepali paper
- ii. Expand the export business of handmade paper by way of joint marketing efforts
- iii. Support the business growth of member companies by producing the quality paper products
- iv. Preserve and promote the art of making traditional handmade paper.
- v. Create awareness among lokta producers in rural area on environmental issues and offer support for the sustainable management of lokta resource.

- vi. Support the improvement of the livelihoods of people in remote area where very limited economic activities are possible

To achieve these objectives the CoC focuses on the following five areas:

1. Raw materials and their sustainable management
2. Services to employees of member companies
3. Preservation of the environment
4. Institutionalization of the member company
5. Preservation of culture and traditions

In order to enable members to comply with the quality standards and provisions of the CoC, a monitoring team is being formed. This monitoring team will provide regular feedback and also settle any disputes among member companies in relation to compliance with the CoC.



Training on production improvement

4.3.2 Training and Technology

GTZ/PSP is also working with various partners (including HANDPASS and FHAN) to upgrade industry skills and technology to capacitate

handmade paper product manufacturers to produce quality products with innovative designs to meet the demand from European markets.

4.4 Market Promotion

4.4.1 International Market Promotion

To understand the market for handmade paper in Europe, GTZ/PSP commissioned a study (Schabmair 2006). The research found that there is a reduced demand for exotic paper products in Europe. Nepali handmade paper products are considered poor quality in terms of workmanship and design; therefore, it is difficult for buyers to justify the price of lokta paper products. Nepali handmade paper products are mostly being promoted through shops for alternative goods, at special events or special markets. Opportunities exist to market lokta paper products through other mainstream channels such as stationery shops, gift shops, papeteries, flower shops and through the Internet. It was also found that European customers were unaware of the uniqueness of lokta. The report recommended that Nepali handmade lokta paper be promoted in the European market to improve its

image and make consumers aware of the unique attributes of lokta paper.

To address this, GTZ/PSP together with HANDPASS and industry stakeholders developed the 'Nepalokta' brand. HANDPASS members, who are signatories and comply with the provisions of the CoC, will be entitled to use the Nepalokta brand on handmade paper products. The brand logo and slogan '*The New Spirit in Paper*' have been developed to create awareness in the international market of the uniqueness of Nepali handmade lokta paper and paper products and to stand for quality.



4.4.2 Domestic Market Promotion

The rising middle class and changing tastes of urban consumers, especially in the Kathmandu, means that there is the potential to increase the domestic market for handmade paper. HANDPASS has formed a special task force to promote lokta paper on the domestic market. GTZ/PSP is supporting HANDPASS to promote lokta paper locally through trade fairs, buyer seller meets, seminars and lobbying with the government to use the handmade paper.

4.5 Institutional Development

GTZ/PSP is working with HANDPASS to implement activities under all of the above strategies. The institutional development of HANDPASS is crucial to the success of such interventions. The membership base of HANDPASS is currently weighted towards paper product makers. This must be expanded to include paper makers so that the organization becomes

truly representative of the industry. The handmade paper industry needs a provider of business development services. GTZ/PSP is working to strengthen the capacity of HANDPASS to provide such services, and to lobby the government in relation to policy, which will eventually create a positive policy and business environment for the subsector.



5 Key Interventions

Design contest winner holding the prize

5.1 GTZ/PSP Interventions

As a matter of principle and in order to achieve long term sustainability, GTZ stresses on implementation of activities by the local organisations; while GTZ plays a role of facilitator. Majority of activities are geared towards capacity building of the enterprises and the local stakeholders.

GTZ/PSP implements interventions according to the following principles:

- **Cost sharing:** GTZ/PSP shares the cost of interventions/activities with the implementing partner. Funds from third parties are also actively pursued whenever possible.
- **Collaboration with stakeholders:** Developing the value chain is a joint effort by many stakeholders. The efforts of a single organization are not enough. In order to optimize the limited resources of the project and to ensure a higher level of impact, GTZ/PSP seeks active collaboration with other stakeholders including other projects, supporting institutions, donors and the government agencies.

To upgrade the handmade paper subsector it is necessary for interventions to focus on both paper makers and paper product makers. Intervening in

only one part of the value chain will not enhance the competitiveness of the entire subsector. The critical constraints must be addressed first; however, the non-critical constraints also need to be carefully examined and interventions initiated.

Various interventions have been implemented in the handmade paper subsector. The activities listed below consist mainly of interventions carried out from July 2005 to December 2006.

5.1.1 Strengthening the Capacity of Paper Makers

While paper product makers are fairly well organized and concentrated in the Kathmandu Valley, paper makers are comparatively disorganized and scattered over 32 districts. GTZ/PSP is focusing its paper making interventions on five districts: Dolakha, Sindhupalchowk, Ramechhap, Sankhuwasabha and Panchthar.

GTZ/PSP has facilitated the following activities to strengthen the capacity of paper makers in the districts.



Participants of handmade paper training in Kathmandu

Paper making training

GTZ/PSP supported district paper making associations/groups of companies to organize several trainings for paper makers in Dolakha, Sankhuwasabha and Kathmandu. Altogether 50 paper makers from 9 districts benefited from these trainings. Product manufacturers in Kathmandu who buy paper from these districts say that the quality of paper has improved as a result of these trainings.

Exposure visit

Ten paper making entrepreneurs from Dolakha, Ramechhap and Sindhupalchowk, who had previously undergone paper making training in 2005, participated in an exposure visit in March 2006 to observe paper making in Baglung district. The visit was organized by the District Cottage Industries Office of Dolakha with support from GTZ/PSP. As a result of the exposure visit, the functioning of the two cooperatives in Dolakha and Ramechhap (Jiri) (of local paper makers, lokta collectors, CFUGs and selected traders) has improved. The larger cooperatives now own and manage the paper factories, creating economies of scale and increasing their bargaining power with buyers.

Research on lokta tissue culture

GTZ/PSP, HNCC, HANDPASS and NSCFP are conducting a research programme to develop an alternative method of mass production of lokta through tissue culture. The research phase will last for two years starting from 1 December 2005. If the research results are successful, the protocol will be disseminated and strategies developed for mass production.



Lokta tissue culture

5.1.2 Strengthening the Capacity of Product Makers

The objective of this intervention is to improve the quality of handmade paper products to suit the tastes and meet the needs of both local and international buyers.

Code of conduct

In order to promote healthy business practices, GTZ/PSP supported HANDPASS to develop a voluntary code of conduct (CoC) for its members. After a series of meetings and discussion among the members, HANDPASS has developed a 31 point code of conduct for its members. As at January 2007, thirty companies have signed the Code of Conduct.

Exposure visit to India

GTZ/PSP supported HANDPASS to organize an exposure visit for paper product makers to Jaipur, Bombay and Pune in India in March 2005. During this visit, two participants learnt about business practices and technology and picked up a number of ideas on how to improve paper production and design (which were disseminated to other members through HANDPASS). As a result of this visit, one entrepreneur has introduced bar code technology to improve his company's inventory accounting system.

Exposure visit to Thailand

GTZ/PSP supported HANDPASS and FHAN to organize a study tour to Bangkok and Chiang Mai in Thailand in June 2006. During the visit, 20 manufacturers and exporters visited paper and paper product manufacturing companies, paper cooperatives, equipment suppliers and a research institute. Participants learnt about improved processes for paper making (e.g., sheet making, paper lifting, cooking and drying); modern

equipment and techniques (e.g., cutting machines, cylinder mould vats, glazing machines, heat stamping, creasing, bag/box making, gluing, binding and packaging); new production methods (e.g., the use of different adhesives, dyes and pigments); and methods for combining different types of raw materials in paper making (e.g., bamboo, wood and metal).



Participants of exposure visit to Thailand

Acquisition of new equipment/training on book binding

In response to industry demand, GTZ/PSP and HANDPASS combined resources to procure a set of standard tools/equipment for product making and to conduct training on book binding techniques. HANDPASS financed the cost of equipment (Euro 9000) and GTZ/PSP financed the cost of the trainer (Euro 10,000). Seven new high quality tools were purchased by HANDPASS (grooving machine, Facher Planax, driller, eyeletting machine, board cutter, heftlade and ring-wire binder). In November/December 2006, a European trainer provided a



Book binding training

month long training on book binding. The 50 participants also learned how to use the new equipment purchased by HANDPASS. During the training, three trainers were groomed as local trainers to provide further training in future. Eventually, the equipment will be managed by HANDECEN in a training institute.

International product design contest

From September to November 2006, GTZ/PSP together with HANDPASS, organized the Nepal Lokta Design Contest. Entrants included young designers and art academies from around the world (Europe, Asia and Canada). The contest was designed to encourage product design innovation. Twenty-one designers submitted their designs, out of which 13 were selected for prototyping. Fifteen companies in Nepal have developed the prototypes. The best designs were prototyped and displayed at the Paper World Fair in Frankfurt in January 2007 where the winners were announced. The winners have been invited to visit Nepal to produce a collection together with the manufacturers in May/June 2007.



Training for conflict victims and the disabled

In July 2006, GTZ/PSP supported the Conflict Victim and Disable Society (CVDS) to conduct a three-month basic product development training for 30 conflict victims and disabled persons. Participants learnt various aspects of paper making and product design. This training was followed by a four-month advanced training (with additional



Conflict victims and disabled people in a three month paper making training

support from HOPE E.V) with the same group, from October 2006 to January 2007. After the training, CVDS will employ the participants and market their products locally as products produced by conflict victims and disabled persons.

5.1.3 International Market Promotion

Europe is the largest market for Nepali handmade paper and GTZ, being a European organization, has a better understanding of the European market than say the American market. Thus market promotion activities have been mainly focused on European markets. The objective of the interventions in this area were mainly to promote the image of lokta and handmade paper products in European markets.

Asia Invest

In order to meet the resource requirements for international market promotion, GTZ/PSP, together with HANDPASS, submitted a proposal to the EU's Asia Invest project. Asia Invest accepted the proposal and is supporting GTZ/PSP and HANDPASS for international market promotion for a period of three years (January 2006 to December 2008). Additional resources were leveraged from HANDPASS entrepreneurs and GTZ project funds. These funds were used to conduct some of the activities that follow.

European market assessment

To understand the market for handmade paper in Europe, GTZ/PSP commissioned a researcher to conduct market research in Europe (Schabmair 2006).

Competitors product analysis

The same researcher then came to Nepal and conducted research on the Nepali market and to show some products available on the European market. About 100 product samples produced from different competing countries (including Europe and Asia) were procured and presented to 20 product manufacturers in Nepal by a European marketing expert. The colour, design and the trends currently in use in the European markets were explained to the product manufacturers. The researcher also surveyed some of the manufacturing companies in Nepal and observed that equipments and tools used by these companies were not appropriate and they needed to be upgraded.

Development of a Nepallokta brand

In order to promote the brand awareness of the lokta paper and products from Nepal, a logo under the brand name of Nepallokta was developed with a slogan of 'The New Spirit in Paper'. This logo was unveiled and promoted in the European markets through a joint marketing campaign in the Paper World Fair in January 2007 in Frankfurt, Germany.



Nepal Lokta stand in the Paper World Fair January 2007

Participation in Paper World

Fourteen entrepreneurs were selected to participate in a joint marketing of Nepali lokta paper products in the Paper World Fair in Germany in January 2007. These companies underwent rigorous training by a European trainer to improve production quality. Then the companies developed up to three product lines for the fair. These products, along with some unique and innovative products from the design competition, were displayed in the special trend hall in Messe Frankfurt at the Paper World Fair between 24-28 January 2007. The entrepreneurs got the opportunity to directly interact with about 320 international buyers during the fair. Many entrepreneurs received on the spot orders from the buyers.

5.1.4 Domestic Market Promotion

GTZ/PSP also facilitated the following activities to promote handmade paper on the domestic market:

Exhibition

To promote the use of handmade paper products in the local market, FHAN, in collaboration with HANDPASS and GTZ/PSP, organized a two day Exhibition Cum Buyer Seller Meet in September 2005. Altogether, 27 producers participated in this event. The fair was attended by 700 potential buyers including the exporters, executives from five star hotels, banks, supermarkets, retail paper/gift shops, cargo companies, online businesses, foreign staff from NGOs and INGOs, government officials and diplomats. In a survey carried out during the fair, 84 percent of exhibitors said that the fair was highly productive for them. Almost 50 percent of exhibitors later said that they received orders as a result of contacts made during the fair. HANDPASS and FHAN are going to organize a similar meet again in 2007.



Advertisement for the Exhibition cum Buyer Seller meet

Brochure

GTZ/PSP supported the development of a brochure titled 'People, Plant, Paper, Practices and Possibilities in Lokta' by a private company called Crafted in Kathmandu. The brochure was distributed to the visitors at the exhibition in 2005.

5.1.5 Institutional Development

GTZ/PSP has been working to strengthening the capacity of its main implementing partner, HANDPASS, to effectively provide services to its members.

Strategic planning workshops

In order to orient the newly elected HANDPASS board members, two strategic planning workshops



Exhibition cum Buyer Seller Meet 2005

were organized, one in December 2004 and one in December 2006. In these planning workshops, subsector development plans were drawn up after intense discussion among key association members. These planning workshops have enabled HANDPASS members to have a common vision, mission and goals, and to define strategies to achieve these goals. These workshops have helped to build a strong team spirit among HANDPASS members.

Institutional linkages

GTZ/PSP has supported HANDPASS to build institutional linkages with paper making companies, research institutions and machine suppliers in India and Thailand.

Strengthening of secretariat and staff

The development of the HANDPASS secretariat is important for the sustainability of interventions in the subsector. From having one part-time employee in December 2004, HANDPASS now has three full-time employees and a fully fledged office with meeting and secretarial facilities. The executive secretary of HANDPASS has participated in training on the value chain approach and she also attended the Paper World Fair in Germany in January 2007. These activities have increased the motivation level of the staff and enabled them to provide better services to their members.

5.2 Impact Chain

GTZ/PSP has a results-based monitoring system in place to enable project steering and to provide annual progress reports. The monitoring system is based on impact chains. An impact chain is the flow of impact from activities to outputs, to use of outputs, to direct/indirect benefits, to national development goals. An

impact chain covers the value chain from primary inputs to final marketing and measures changes against a given initial situation.

Table 10 shows the impact chain for the handmade paper subsector.

Table 10: Impact Chain of Activities

Component 1: Strengthening the capacity of paper makers

Major Activities	Outputs	Utilization of Outputs	Direct Benefit
Paper making training in Dolakha, Sankhuwasabha, and Kathmandu for the paper makers	Paper making training in Dolakha, Sankhuwasabha and Kathmandu conducted. ...50 paper makers from 9 districts have benefited from these trainings.	The quality of paper from the trained paper makers improve as a result of these trainings. ...Product makers confirm that the quality of paper has improved.	Quality and quantity of paper is increased.
Exposure visit for paper makers	Paper makers from Dolakha, Ramechhap and Sindhupalchowk were taken for an exposure visit to Baglung. ... 10 entrepreneurs went to observe the paper making in Baglung district.	Paper makers exchange their experiences in paper making and cooperative management. ... Paper makers form cooperatives, achieve economies of scale and enhance their bargaining power.	
Support for research on tissue culture of lokta plant	One year long research on tissue culture of lokta plants jointly conducted by NSCFP, GTZ and HANDPASS with the help of the Department of Plant Resources. ...Ongoing tissue culture research.	The sustainability of the lokta resource is increased. ...Results yet to come (this project is to be extended for one more year).	



Some innovative products

Component 2: Strengthening the capacity of product makers

Major Activities	Outputs	Utilization of Outputs	Direct Benefit
Develop a code of conduct for handmade paper product subsector	CoC prepared. ... CoC signed by 30 handmade paper entrepreneurs.	CoC implemented by entrepreneurs with an objective to enhance fair business practices. ... 50% of the entrepreneurs who have signed the CoC actually implement it.	Increase in quality and diversification of products.
Exposure visit for entrepreneurs to Thailand	Exposure visit to Thailand conducted. ... 20 entrepreneurs visited machine manufacturers, Saa paper manufacturers and paper cooperatives in Bangkok and Chaingmai, Thailand.	The entrepreneurs upgrade their current technology to increase productivity and product quality. ... One entrepreneur bought three machines from a Thai supplier and others changed their production layout and production methodology after the visit.	
Procurement of new equipment and book binding training	A month long Book Binding training conducted. ... 50 persons working in several handmade product factories in Kathmandu benefited from this training.	Entrepreneurs improve the book binding techniques and proper use of machines to enhance the quality of paper products. ... 50% of the entrepreneurs apply the knowledge gained in the training. ... 3 trainers were developed as local trainers and these trainers will provide further training in future.	
Support training for making handmade paper products for conflict victims and disabled persons. (3 + 4 = 7 months)	A 7 month long training on product making conducted. ... 30 persons received the first three month long training in paper product making. ... 20 more persons are receiving the advanced product making training in handmade paper.	The Conflict Victims and Disabled Society, the organization which is implementing the training, gives employment to successful participants. ... 30 training participants are employed by CVDC.	

Component 3: Market Promotion

Major Activities	Outputs	Utilization of Outputs	Direct Benefit
Conduct product comparison and analysis of handmade paper products	Products made in Europe and other Asian countries were brought to Nepal and compared with Nepali products. ... About 100 products from Europe brought and compared with products from Nepal.	Awareness of the entrepreneurs regarding the need to increase their product quality increased. ... HANDPASS purchased equipment worth 9000 Euro to improve products.	Promote image of lokta and handmade paper products on domestic and European markets.
Support for the development of Nepalokta logo	Nepalokta logo developed. ... Nepalokta logo.	The logo establishes a brand image for Nepali handmade paper in international arena. ... Nepalokta logo promoted in Europe.	
Conduct market research of handmade paper in the European market	A market research report has been produced. ... The findings of the report have been presented to 30 HANDPASS members and a CD containing the report has been circulated.	Awareness level of HANDPASS members regarding the European market is enhanced. ... 14 entrepreneurs have participated in the Paper World Fair, Germany in January 2007.	
Organising Nepali handmade paper promotional forum in a Major European Fair (Paper World)	Nepali handmade paper promotional forum organized. ... 14 entrepreneurs participated in the Paper World Fair, Germany in January 2007 and displayed their products	The uniqueness and the strengths of Nepali handmade paper communicated to the European buyers. ... 320 international buyers made inquiries about Nepali lokta paper products. Positive response received from buyers about Nepali lokta paper and products.	

Component 3: contd ...

Major Activities	Outputs	Utilization of Outputs	Direct Benefit
Organise an international competition on lokta paper product design	A contest with young designers from design academies in Europe and individual designers is conducted. ... 32 designers from different parts of the world participated. 21 designers submitted their designs for competitions.	The most innovated design will be commercialized by inviting the designer to visit Nepal to produce a collection. ... 15 Best designs were prototyped and displayed in the Paper World Fair, Germany in January 2007. Two winning designers will work with producers in Nepal to commercialise their products	Promote image of lokta and handmade paper products on domestic and European markets.
Organise a buyer seller meet on handmade paper products at the national level	National buyer seller meet organized ... 30 enterprises displayed their products in the 2 days exhibition. ... 500 recorded visitors visit this fair.	Sellers meet the institutional local buyers. ... 84% of participants say that the buyer seller meet was fruitful. ... 16% of the exhibitors received immediate orders at the exhibition.	

Component 4: Institutional Development

Major Activities	Outputs	Utilization of Outputs	Direct Benefit
Conduct strategic planning workshop with HANDPASS	Two strategic planning workshops conducted (one in December 2004 and one in December 2006) to orient the newly elected board of HANDPASS and develop the strategies and interventions in the handmade paper subsector. ... Strategies developed in the workshop.	Strategies and activities developed with stakeholders and adopted by GTZ/PSP for development of the subsector. ... GTZ/PSP implements the strategies with support from the stakeholders.	The capacity of the main implementing partner, HANDPASS, is strengthened to effectively render services to its members.
Conduct value chain training for entrepreneurs and key stakeholders of HANDPASS	Value chain training conducted for partners of GTZ/PSP. ... 5 entrepreneurs from the handmade paper subsector (from HANDPASS) participated in the training.	Executives of HANDPASS understand the importance of value chains and upgrade businesses accordingly. ... Participants further share the learning with the fellow entrepreneurs.	

Bibliography

- Banjara, GB (2001) *Handmade Paper Making in Dolakha and Ramechhap Districts*, Swisscontact/SIPP, Kathmandu.
- Biggs Stephen & Messerschmidt (2005) 'Social Responsibility in the growing Handmade Paper Industry of Nepal', Elsevier, *World Development*, Vol. 33 No. 11.
- BISCONS (2000) *Strengthening Specific Handicraft Subsectors: Study of Handmade Paper Products*, Swisscontact/SIP-P, Kathmandu.
- Dongol, BD (2003) *Problem with the Operation and Export of Nepalese Handmade Paper*, (unpublished)
- Haggblade, SJ & Gamsler, MS (2001) *Field Manual for Sub-Sector Practitioners*, Gemini Publication US.
- HANDPASS (2003) *Lokta Production and Handmade Paper Making in Nepal-Problems and Way Forward?* Kathmandu, (Unpublished).
- Kaplinsky, R & Morris, M (2003) *A Handbook for Value Chain Research*, Gapresearch.org, Institute of Development Studies, University of Sussex UK, <http://www.ids.ac.uk/ids/global/pdfs/vchnov01.pdf>, accessed 1 December 2006.
- Lusby F (2002) *Subsector/Business Service Approach to Program Design*, Micro Enterprise Development, USAID, Washington DC.
- Maharjan, B (2004) *Proceedings of Handmade Paper Sub-sector Development Planning Workshop*, HANDPASS, Kathmandu.
- Mueller, M (2002) *Training Report*, Swisscontact/SIPP, Kathmandu (Unpublished).
- Pant, A (2006) *Assessing Competitiveness of Handmade Paper Subsector*, GTZ/PSP internal report, GTZ, Kathmandu.
- Porter, EM (1998) *The Competitive Advantage of Nations*, The Free Press, New York.
- Richter, P (2005) *The Application of the Value Chain Methodology in Development Projects: Reporting on the Sri Lankan Experiences*, GTZ-Integration, Sri Lanka.
- Schabmair, H (2006) *Market research of handmade paper and paper product in the European market – with particular reference to Nepalese handmade paper: Lokta paper*, submitted to GTZ/PSP (unpublished).
- Schmitz, H (2005) *Value Chain Analysis for Policy-Makers and Practitioners*. International Labour Organisation, Geneva, http://www.ilo.org/dyn/empent/docs/F204969253/VCA_book_final.pdf, accessed 1 December 2006.

Annex 1: Porter's Diamond: Competitiveness Rating of Handmade Paper Subsector

Factors	Rating
I) Demand Conditions	
1. Size of domestic demand	2
2. Large number of buyers	3
3. Sophistication of buyers	5
4. Presence of multi-national corporation buyers	3
5. Growth rate of domestic demand	3
Average	3.2 (Favourable)
II) Factor Conditions	
6. Raw material availability	4
7. Human resource availability and skill	3
8. Knowledge base and research capabilities	2
9. Capital availability	4
10. Infrastructure	2
Average	3.0 (Neutral)
III) Industry Structure	
11. Large number of enterprises/no monopoly	4
12. Efficient size	3
13. Domestic rivalry	4
14. Entry barriers	4
15. Congruence between sector and firm goals	3
Average	3.6 (Favourable)
IV) Support Industries	
16. Design and product development	2
17. Marketing, market research and advertising	2
18. Training	2
19. Research and development	2
20. Component and machinery suppliers	3
21. Producers associations	5
22. Promotional institutions	3
Average	2.7 (Neutral)

Note: 4.1-5.0 Highly Favourable | 3.1-4.0 Favourable | 2.1-3.0 Neutral | 1.1-2.0 Unfavourable | 0-1.0 Highly Unfavourable

PROJECT CYCLE OF GTZ PSP'S INVOLVEMENT IN HANDMADE PAPER SUBSECTOR



Source: A. Pant, GTZ/PSP-RUF/IN

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