The Marketing of Non-Timber Forest Products from the Himalayas: The Trade between East Nepal and India

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SUMMARY

Every year in the Himalayan region thousands of tonnes of non-timber forest products are collected from forest land and traded to India. In Nepal, the enterprise has provided income to the rural population since ancient times, and yet little research has been done even to identify the products. Far less is known about their role in village life, conservation status, management or marketing.

The products leave Nepal almost exclusively as raw materials — fruits, seeds, roots, barks and herbs — for the production of chemicals, herbal extracts and essential oils. Very little value is added locally and there are few internal markets. Official calculations of the trade's value are unreliable because revenue records are considerably under-recorded. However, a tentative estimate by this author of the total cash income to the rural population of Nepal is in the order of ten million dollars (US) per year. This is distributed between collectors, porters and village-based traders.

Clearly, the trade in non-timber forest products (NTFPs) is an important source of income. In the Middle Hills few alternatives may exist, especially for the poorer sectors of the rural population — those with limited access to land, labour or credit. However, there are few examples of adequate management of traded NTFPs and some species are being over-exploited.

This paper gives a background to the NTFPs traded from Nepal, and describes their marketing at the national, regional and local level with particular reference to the Koshi Hills, East Nepal. Information is drawn from informal interviews with traders, collectors and government foresters over the previous twelve months. The discussion and conclusions focus on:

a) the rural distribution of income from NTFPs;
b) ways to improve collectors' incomes by reducing their dependence on middlemen;
c) adding value at the local level, and;
d) the effects of promoting cultivation on private land.

BACKGROUND

The Kingdom of Nepal extends east to west for approximately 830 km, a distance comprising one third of the entire length of the Himalayan chain. From north to south the country spans a distance of just 200 km over which there are considerable altitudinal variations ranging from 50 m above sea level (asl) to well over 8,000 m at the northern crest line. Within Nepal there is remarkable ethnic and biological diversity and a wealth of indigenous knowledge of plants with economic value (FAO, 1982).

In Nepal, all forest products other than timber, fuelwood and animal fodder are regarded as
NTFPs. For subsistence livelihoods in the Middle Hills, NTFPs have important roles in health care (FAO, 1982; HMG/Nepal, 1988) and in the maintenance of nutritional standards between agricultural harvests (Daniggelis, 1992). In addition, there are many local level enterprises based on NTFPs, notably those involving:

a) bamboos for mat and basket-making;
b) *Daphne* bark for *lokta* paper production, and;
c) *Girardinia diversifolia* fibres for *allo* cloth production.

NTFPs also provide a limited range of raw materials for industry in Nepal. Of most significance are:

a) resin tapping from *Pinus roxburghii*;
b) *katha* extraction, a dye from the heartwood of *Acacia catechu*, and
c) paper from *sabai grass* (*Eulalopsis binata*). However, this paper is restricted to the little-known trade in raw materials for which the only significant markets are in India, beyond Nepal's southern border.

**THE KOSHI HILLS STUDY**

This paper is based on the first year's results from a two-year study of the collection, marketing and use of non-timber forest products traded from the Middle Hills of Nepal. To date, the study has focused on the Koshi Hills, East Nepal: specifically the trade running north-south through the neighbouring roadhead settlements of Hile and Basantpur, down the Dharan-Dankhuta road to the Terai (Nepal's lowland belt) and crossing the Indian border at Jagbeni (see map). Much of the Koshi Hills' trade is destined for processing industries in Calcutta.

The Hile-Basantpur roadhead is the main NTFP collection point in the Koshi Hills. The catchment area covers the Districts of Sankhuwasabha and Terathum, northern Bhojpur and Dhankuta Districts and western Taplejung District. The catchment population is approximately half a million people. Semi-structured interviews (McCracken *et al.*, 1988) were held with:

a) NTFP collectors;
b) traders at different levels of the marketing chain, and;
c) government officials — District Forest Officers, Forest Rangers and the staff at forest product checkposts.

Information was collected on all aspects of NTFP collection, marketing and taxation in Nepal.

**Non-Timber Forest Products Traded From Nepal**

The NTFPs that enter India as raw materials are collected, portered, taxed and traded as a discrete group of products referred to in Nepali as *jaributi*. A close definition of *jaributi* is ‘medicinal, aromatic and spice plants’. It also equates to the officially-used term ‘minor forest products’, all of which are taxable if collected from government-managed land and traded from the district of origin. This paper refers to them as ‘traded NTFPs'.

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With all traded NTFPs, the viability of collection appears to be a function of the walking distance to the market. As the road network pushes further north throughout the country, collection becomes viable from currently less accessible sources. Products with the highest value can be collected from the remotest locations. In Nepal, remoteness is related to altitude. The majority of products fall into two contrasting groups: high-value products from high altitudes, and low-value products from lower altitudes (below 2000 m).

An example from the high-value group of products is known in Nepali as kutki — the roots of *Picrorhiza kurroa* — traded for its medicinal properties through East Nepal from as far as Tibet. Other products include the following:

a) The entire plants of *Swertia chirata* (chiraita) are collected for a bitter principle active against fever with long established use in ayurvedic (traditional Indian) medicine. It is a biennial herb found at mid-altitudes (1200-3000 m asl) on open ground and recently slash-and-burnt forest. In recent years, an expanding market has developed in the Indian alcohol industry. Most chiraita in Indian commerce is collected from East Nepal. India also exports the extract chiretta to Europe and Asia (CSIR, 1985).

b) The rhizomes of *Nardostachys jatamansi* (jatamansi) an erect perennial herb from the alpine Himalayas (3000-5000 m asl) are now banned for export unless processed within Nepal. Nevertheless, a major illegal trade continues to India for extraction of a pale yellow essential oil of high value as a drug and an ingredient in perfumes.

The main high-value products are herbs collected from vast areas of government-owned land used as common pasture in the summer months. In the Koshi Hills the collection of herbs is often an incidental activity for agro-pastoralists alongside the essential job of watching livestock. In other areas collecting forays are discrete activities that can last days or weeks, for example herb collection in the Annapurna region, central Nepal, provides an income for migrant Tamangs. In general, there is no management: plants are uprooted and access to them is open to all.

Markets for the high-value products are normally the nearest roadhead settlement. According to traders in Hile and Basantpur, the most important commodities leaving the Koshi Hills are chiraita and large cardamom (*Amomum subulatum*, see Table 1). CardamoM is an agroforestry crop, and not a priority for the study. However, it is traded alongside NTFPs throughout East Nepal and shares the processing and marketing constraints faced by true NTFPs. Excluding cardamom, chiraita comprises around 75% of the total cash value and 60% of the total volume of trade from the Koshi Hills.
Table 1: High-value NTFPs — the trade through Hile and Basantpur (1991-92)

<table>
<thead>
<tr>
<th></th>
<th>Product Name</th>
<th>Tonnes/year</th>
<th>Price NRs/Kg*</th>
<th>Total NRs/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Swertia chirata</em> (chiraita)</td>
<td>140</td>
<td>100</td>
<td>14,000,000</td>
</tr>
<tr>
<td>2</td>
<td><em>Picrorhiza kurroa</em> (kutki)</td>
<td>24</td>
<td>65</td>
<td>1,560,000</td>
</tr>
<tr>
<td>3</td>
<td><em>Nardostachys jatamansi</em> (jatamansi)</td>
<td>30</td>
<td>50</td>
<td>1,500,000</td>
</tr>
<tr>
<td>4</td>
<td><em>Aconitum spicatum</em> (bikh)</td>
<td>10</td>
<td>55</td>
<td>550,000</td>
</tr>
<tr>
<td>5</td>
<td>All other NTFPs**</td>
<td>20</td>
<td>-</td>
<td>570,000</td>
</tr>
<tr>
<td>6</td>
<td><em>Amomum subulatum</em> (Cardamom)</td>
<td>[200]</td>
<td>[105]</td>
<td>[21,000,000]</td>
</tr>
<tr>
<td></td>
<td><strong>Total (excluding cardamom)</strong> NRs</td>
<td>18,180,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>US$$***</td>
<td>363,600</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* These were: *Zanthoxylum armatum*, *Piper longum*, *P. chaba*, *Rubia cordifolia*, *Aconitum spicatum*, *A. palmatum*, *Cinnamomum tamala*, *Lycopodium clavatum*, and 1 year old *Swertia chirata* comprising 14 tonnes of low-value leaves.
** Nepali Rupees/Kilogramme.
*** Assuming an exchange rate US$ 1=NRs 50

(Source: author's field data).

In contrast, low-value products are traded in larger quantities from lower altitudes. Throughout the southern Himalayan foothills considerable quantities of the following products are traded each year:

a) *Cinnamomum tamala*, an evergreen tree, occurs between 1000 and 2500 m asl. The leaves (*tejpat*) are used extensively in northern India as a spice. The bark (*dalchini*) is aromatic and traded as an adulterant of true cinnamon (*Cinnamomum zeylanicum*).

b) *Sapindus mukorossi* is one of two sources of soapnuts (*rittha*), well-known in India for their detergent properties. The tree is found in Nepal up to an altitude of 1500 m asl. In addition to India's internal market, soapnut has been exported from India since ancient times to various countries in Europe and Asia (CSIR, 1985). A large proportion of the current trade originates from Nepal.
c) The bark, fruits and seeds of *Zanthoxylum armatum* (*timur*) a small tree found between 1000 and 2100 m asl, are used extensively in ayurvedic medicine. Because of their deodorant, disinfectant and antiseptic properties, the seeds are often used for dental preparations (CSIR, 1985). The essential oil has good marketing potential in Europe (Durbeck and Wildner, 1993b).

The low-value group is characterised by products from trees that occur naturally in forest but are also cultivated on private land. Cultivation is possibly a response to over-exploitation from unmanaged forest (Carter and Gilmour, 1989). These species occur near the road network and hence collection is economically viable, despite their low value. The volumes of products shown in Table 2 are typical of the trade through small towns in the Terai like Lahan (see map).

### Table 2: Low-value NTFPs — the trade through Lahan (1991-92)

<table>
<thead>
<tr>
<th></th>
<th>Tonnes/year</th>
<th>Nepali Rupees/Kg</th>
<th>Total NRs/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Cinnamomum tamala</em> bark (dalchini)</td>
<td>100</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td><em>Cinnamomum tamala</em> leaves (tejpat)</td>
<td>400</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td><em>Sapindus mukorossi</em> (rittha)</td>
<td>100</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td><em>Asparagus racemosus</em> (satawari)</td>
<td>45</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>(sikakai)</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>NRs</strong></td>
<td><strong>US$$</strong></td>
<td><strong>8,300,000</strong></td>
</tr>
</tbody>
</table>

(Source: author's field data).

**TENURE AND MANAGEMENT**

By law, all forests within the kingdom of Nepal, excluding those on private land, are national forest owned by His Majesty's Government (HMG/Nepal). National forest includes wasteland, uncultivated or unregistered lands surrounded by or adjoining forests. This is relevant to NTFP management because they are often harvested from areas with little tree cover. Legally, there are three main forms of tenure for the land from which the products are harvested. These are:

a) government-managed forest;
b) community forest, and;
c) private land.

The ownership of forest products within government-managed forests is vested in the government. All NTFPs collected from government-managed forest and traded from the district of origin are subject to royalty payment. In practice, taxation is the only government policy that effects NTFP management, but the current royalty mechanism does not encourage sustainable harvesting of NTFPs. District Forest Offices do not have the resources to address the following problems:

a) Royalty rates for products bear little relation to their abundance or market value.

b) Royalties should be paid by the individual collectors. However, this is not enforceable. In practice, responsibility for payment is transferred to wholesale traders in district centres far from the original collection sites. As a result there is little prospect of relating the volumes collected to sustainable harvesting rates.

c) Products collected from government managed and other forest cannot be distinguished. In practice all traded NTFPs can be taxed regardless of ownership. The taxing of private property is a common source of conflict between collectors and forestry officials. Currently, the royalty system provides no preferential incentive for cultivation on private land, or for common property management.

In general, for government-managed forests, the resources are not available for effective management and yet there is little incentive for communities to gather NTFPs sustainably from land over which they have no control. In recognition of this, current government forest policy puts great emphasis on community forest management, a form of common property management (HMG/Nepal, 1988). The management of national forest is being systematically handed over to identified communities of users. The forest user groups so formed distribute the costs and benefits of management amongst themselves. They are entitled to sell or distribute forest products by independently fixing their prices according to an operational plan (HMG/Nepal, 1993).

To date, few examples of common property NTFP management have been discovered, whether by local initiatives or by government sponsored forest user groups. However, there is evidence from the Koshi Hills Community Forestry Project that greater control of *Daphne* harvesting and pine resin tapping in certain community forests may develop as sponsored user groups become better established.

To conclude, apart from the species cultivated on private land at lower altitudes, there are few examples of management of traded NTFPs.

**PROCESSING AND QUALITY REQUIREMENTS**

As Nepal is land-locked between the Himalaya and northern India, the marketing of NTFPs has traditionally been under the control of large-scale Indian wholesalers. The vast majority of NTFPs leaving Nepal are traded as raw materials to India. Internal markets and processing facilities are
insignificant. Even basic grading and cleaning operations are centralised in major Indian cities.

The marketing of cardamom from East Nepal gives an indication of India's control. Cardamom is also produced in Bhutan and the neighbouring Indian state of Sikkim. However, the vast majority from all three sources passes through India (Patna and Calcutta) for grading, packaging and onward sale. By supplying graded cardamom in bulk, India can offer better prices to overseas buyers. Despite the steady increase in cardamom exports from Nepal over the previous 15 years, the proportion sold overseas (countries other than India) has decreased. In 1991–92, all cardamom of Nepali origin was sold to India (HMG/Nepal, 1992).

In general, villagers receive the message that there are no processing or quality requirements; India will buy maximum quantities of all specimens, and will pay according to weight, regardless of quality. Hence, hardly any processing or grading is undertaken in villages. Panchaunle (Orchis latifolia) is one of the few products for which processing in villages has been requested by the trade: the roots are sun-dried after boiling in buffalo milk.

Only a few examples exist of traders distinguishing between grades and pricing them accordingly. These include Sapindus mukorossi. The fruits deteriorate over a period of six months, changing colour and decreasing in value. Traders in western Nepal are prepared to pick out each fruit from a mixed pile and price them differently. It is unclear why this does not happen throughout the country, or in the villages of origin. The price differentials were 11.5 for yellow fruits, 10.5 for red fruits and 5.0 for black fruits (Nepali Rupees/kg in early 1993). Another example is Zanthoxylum armatum. Large wholesalers in West Nepal distinguish between seed sources on the basis of oil content and price them accordingly. The different grades are a consequence of the drying methods in different villages.

**MARKETING CHANNELS IN NEPAL**

Throughout the Himalayan region the trade in NTFPs comprises the flow of raw material from northern high altitudes to the Indian plains in the south. After harvesting, NTFPs are portered to collection points where they pass through a series of middlemen who handle progressively larger volumes of trade. Often the products join long-established trade routes between Tibet and India. Important collection points are located at roadheads — the northernmost points on the road network. From there, products are transported by truck to India via a series of trading towns spaced at regular intervals along or near the east-west highway in the southern lowlands of Nepal (the Terai).

Nepal's largest NTFP wholesalers reside in these towns and manage their collection operations over large catchment areas that funnel northwards from roadheads, often to beyond the Tibetan border. The Terai-based wholesalers are the smallest and most powerful group of middlemen. They are often "Marawaris", a cultural group linked closely with India. They each have favoured buyers in India, with whom they are in regular telephone contact for the latest market information. Throughout Nepal, the access to knowledge of Indian markets is carefully controlled by these individuals.

From portering through to marketing the trade in NTFPs is controlled by men. In the next phase
of fieldwork further research is to be carried out into the division of labour in the collection of NTFPs, and into the distribution of income within and between households.

MARKETING IN THE KOSHI HILLS

The History of Trade in the Koshi Hills

For centuries, trans-Himalayan trade through the Koshi Hills was centred on the village of Walongchung on the upper reaches of the Tamur river. Its proximity to the relatively accessible Tipta Pass allowed Walongchung to act as an entrepôt for the trade between Tibet and East Nepal. Salt and wool, brought by yak caravans from Tibet, were transferred onto the backs of porters for the onward journey. Goods from the south included grain, textiles and sugar.

According to the anthropologist Fürer-Haimendorf, many of Walongchung's men were prosperous long distance traders with strong business connections along the route through Dhankuta, Dharan, and Biratnagar, and sometimes as far as Calcutta, Delhi and Bombay. Since the 1950s, however, Walongchung's fortunes have collapsed, partly due to political events that restricted trade with Tibet, but also due to a landslide that destroyed many of the houses.

By 1972, Walongchung families had formed a new settlement on a plateau north of Dhankuta called Hile, and continued to live entirely on trade. They no longer dealt in salt and grain, but concentrated mainly on trade in cloth and other consumer goods. Today, two of the most important commodities traded south through Hile are chiraita and cardamom. Wrote Furer-Haimendorf (1975):

"The foundations of Hile as a trading-centre of novel character...demonstrates the resilience and resourcefulness of a trading community long used to adjusting itself to fluctuations of the market as well as to shifts in the political balance."

At the time, the road network stretched only as far as Dharan. In the early 1980s, it was extended to Hile which, with its newly established importance in the region's trade, developed as the main collection point for NTFPs in the Koshi Hills. Currently the road extends one hours drive beyond Hile to the frontier village of Basantpur. Basantpur now handles a greater volume of NTFP trade, but Hile has maintained some importance being more accessible to porters from the west. Hence, this paper refers to the `Hile-Basantpur roadhead' as the NTFP trading centre for the Koshi Hills.

The Hile-Basantpur Roadhead

Between the collectors and the buyers in India a load of NTFPs passing through the Hile-Basantpur roadhead is not likely to be handled by more than three middlemen. The middlemen are referred to here as Terai wholesalers, roadhead traders and village traders. In Dharan and Biratnagar there appear to be approximately three families of Terai wholesalers in competition for the Hile-Basantpur trade. Their business extends to other roadheads: Chatra in the west and Ilam in the east.
The Terai wholesalers tend to cooperate, for example by distributing produce between themselves to allow for orders to be met with respective Indian buyers. At each roadhead they will work closely with one or more commission agents to whom they will advance working capital (for one agent in Hile his annual advance was worth approximately NRs 250,000). Some roadhead traders appear to have more independence, but still tend to form specific trading links with trusted individuals in the Terai.

Hence, the real source of competition is between the roadhead traders (both agents and independent middlemen). In Hile and Basantpur there are an estimated twenty enterprises competing. As an indication of the competition, traders can be found several hours walk up the trail waiting to intercept independent collectors with loads of produce. Similarly, in frontier towns like Basantpur, NTFP warehouses are often the buildings furthest north to increase the likelihood of trade.

The system of agents and contacts is repeated for roadhead traders in Hile and Basantpur, who will have close business arrangements with up to 15 village traders living throughout the trade catchment area. As a rough estimate there may be in the order of one hundred village traders — either working independently or as agents. All require good market information and working capital.

The high competition in Basantpur and Hile is one indication that an important proportion of the trade is not tied to certain roadhead traders by prior transaction, for example through cash advances given to village traders. Some collectors have the economic independence to market their products directly. Although they have the freedom to shop around, they will often have trusted buyers, perhaps of the same ethnic group.

**Variations Between Roadheads**

There appear to be large regional variations in the marketing process, both in terms of the number of middlemen in the vertical trade structure and the marketing roles that they perform. At different roadheads there are variations in competition, specialisation and market information. Basantpur is compared here to:

a) Beltar (Udaypur District), a roadhead accessible by oxcart in the Inner Terai 40km due west of Dharan (see map), and

b) Palung (Makwanpur District), a village 25km west of Kathmandu on a little used road to India.

As in Basantpur, there is heavy competition between traders in Beltar. However, Beltar handles low-value products (similar to those passing through Lahan — see table 2) for which collection is only profitable from local sources. Numerous collectors arrive in Beltar from the north on the weekly bazaar day and supply their products directly to shopkeepers. Perhaps as each transaction is on a small scale, direct exchange is often appropriate. NTFPs will be exchanged for rice, oil, salt and other goods, on the basis of cash value, for the collectors’ return journey. By dealing in NTFPs, shopkeepers increase the likelihood of doing business in general. As a result, the NTFP trade appears to be closely linked with Beltar's cash economy.
The majority of Beltar's NTFP trade is handled by four brothers acting collectively and based strategically at the northern end of town. However, it seems that shopkeepers are sufficiently numerous to keep Beltar prices competitive.

By contrast, Basantpur NTFP traders are specialists. In fact, an overwhelming proportion of their trade comprises just two products: chiraita and cardamom. Although cardamom is an agroforestry crop it is marketed to India alongside chiraita and other NTFPs. These are the only important exports from forest land in the Kosi Hills.

It is possible that the Basantpur NTFP trade has specialised because the main products are high-value herbs from remote locations (see table 1). Their collection and marketing to the roadhead requires major inputs of time and labour, but are rewarded with substantial cash profits. For example, a collector marketing his own 70 kg load of chiraita in Basantpur may receive NRs 7000 for a round trip of, say, ten days. With transactions of such high value, it is more appropriate for him to deal with specialist wholesalers. Direct exchanges between shopkeepers and small-volume collectors, appear to be uncommon.

The village of Palung is a collection point for NTFPs gathered from the surrounding Mahabharat Mountains. There appears to be just one independent resident NTFP trader. He has buyers in Kathmandu and the Terai. Although handling smaller volumes, Palung is comparable to Beltar in terms of transport costs simply because both are on the road network. For the three products traded through both locations (Swertia chirata, Asparagus racemosus, and Rubia cordifolia) the collectors' prices in Palung were between 50% and 85% of those quoted three days previously in Beltar. The best explanation is the lack of competition in Palung and, perhaps, poor market information amongst its collecting population.

LOCAL LEVEL MARKETING

The Village Trader Network

Throughout the Koshi Hills there is a network of village traders. The network decentralises the task of marketing products to the roadhead making it more efficient. Village traders have valuable local knowledge of sources. They often have close relations with collectors and can perform marketing functions that improve the economic viability of collection and hence increase the volume of trade.

A roadhead trader can increase his control over the village trader network, and hence increase the proportion of trade sold to him, by distributing advances which, in turn, are given to collectors. In theory, the roadhead traders can use the network to pass market information to collectors. However, this is rarely necessary because the markets in India have so few quality or processing requirements. Some village traders are independent and can choose who to sell to at the roadhead. This is indicated by the high competition in Basantpur. Many have at least a proportion of their trade tied by advances to certain roadhead traders.
The Relationship Between Village Traders and Collectors

The relationship between the village traders and collectors can be very close. Buddhist cultures throughout northern Nepal are characterised by closely-knit communities with long-term reciprocal forms of cooperation. According to the anthropologist Humphrey (1992), the majority of trade in the Koshi Hills is between ritual friends called mit in Nepali. A mit must help not only the partner, but also his or her entire pool of relatives; must observe ritual avoidance of the wife or husband and undertake funerary rites when the mit dies. This is a serious life-time commitment. Mutual trust is the essence of the relationship since the completion of a transaction is often delayed due to the timing of agricultural harvests, and may be intermeshed with other kinds of help (Humphrey, 1992).

In the Koshi Hills, mit relationships were encountered between village NTFP traders and male members of prosperous households in collectors' villages within the trader's catchment area (pers. obs.). Of note, attempts by traders to establish exploitative mit relationships have been reported from the Gongtala area (Daniggelis, pers. comm.). Nevertheless, the advancement of capital at the village level clearly has significance well beyond its immediate role in a business transaction.

Chiraita Marketing at the Local Level

To understand NTFP marketing at the local level this paper will discuss chiraita collectors in the Sherpa village of Gongtala, Sankhuwasabha District. Gongtala is situated at 2250 m asl, four days walk from Hile, and has 14 households (see map). The total collection of chiraita in 1992 was approximately 200 kg.

Chiraita marketing in Gongtala is handled by a trader (of the Rai ethnic group) who lives two days away in Bala. Gongtala is near the edge of his catchment area. The area is shared with other NTFP traders creating some competition for business. The Bala trader visits Gongtala before collection and negotiates the advancement of capital to those who need it based on an agreed local price for a minimum harvest.

In general, a trade negotiation is not a confrontation, but rather a polite petitioning from the visitor. In the last resort, goods are traded according to the host's village view of what is fair (Humphrey, 1992). The timing of advances is well suited to villagers' needs. Credit is often given during the period of food deficit before the monsoon in April and May, or to allow for purchases before Dasain and Tihar in October — the most important festivals in the Nepali calendar.

In August and September 1992, chiraita was collected and stored in Gongtala's larger houses. Of the 200 kg total, an estimate of 30 kg was collected by each of five "active" households, and 10 kg by another five "casual" households. After Tihar in November the trader returned and settled the accounts. He brought his own porters and arranged for the entire transport to Hile — bundling, weighing, portering and temporary storage in Bala. Collectors clearly pay for this service. At the start of November 1992 the chiraita price was 48 NRs/kg in Gongtala (4 days from Hile) and 60 NRs/kg in Kanigaun (3 days from Hile). In Hile it was 80 NRs/kg. If taken immediately to Hile for sale (via Bala), the total value of Gongtala's chiraita harvest would have been NRs 16,000. The distribution of benefits would roughly have been as follows:
NRs 1,440 to each of 5 active collectors' households
NRs 480 to each of 5 casual collectors' households
NRs 750 to each of 4 porters' households
NRs 3,400 to one village trader's household

In this scenario, for Gongtala's production, the village trader receives little more than twice the income of an active collector's household. However, the trader will be dealing with perhaps four other villages. Also, over the following three months the chiraita price increased steadily by 30% to a maximum of 112.5 NRs/kg. Hence, if the village trader speculated perfectly and held his stock in Bala until February he could have tripled his net income to NRs 9900 on Gongtala's production alone (assuming porter costs and other assumptions were still valid).

Clearly, accurate market information and speculation can help village-based chiraita traders to market their products efficiently. In practice, however, timing of sales may also be influenced by:

a) labour availability, for example due to the millet harvest in November;
b) the interest rate on loans, and;
c) the risks of loss associated with storage.

Collectors' Choices

A chiraita collector in Gongtala, who is not dependent on the marketing services provided by the village trader, has the choice to market his load directly to the roadhead and increase his income by at least 65% (see table 3).

The minimum requirements for direct marketing by collectors are: a) financial independence, and b) labour. The ability to trade at all depends on there being sufficient workers in the household to take care of the farm during trade journeys (Humphrey, 1992). To realise the full potential income the same collector would also need to time the sale accurately, requiring: a) market information, and b) the ability to take risks associated with storage and price change.

If collectors in Gongtala were not dependent on the village traders, they would have two choices: a) where to sell and, b) when to sell. The costs and benefits associated with the choices are outlined below:
**Table 3: Collectors' choices in Gongtala**

<table>
<thead>
<tr>
<th>SELL TO LOCAL TRADER</th>
<th>SELL TO ROADHEAD TRADER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SELL NOW (NOV 1992)</strong></td>
<td><strong>SELL LATER (FEB '93)</strong></td>
</tr>
<tr>
<td>LOW INCOME (NRs 3360)*</td>
<td>UNLIKELY TO HAPPEN</td>
</tr>
<tr>
<td>No labour costs</td>
<td>HIGH LABOUR COSTS</td>
</tr>
<tr>
<td>Credit available</td>
<td>NO CREDIT GIVEN</td>
</tr>
<tr>
<td>Low risks</td>
<td>HIGH RISKS</td>
</tr>
<tr>
<td>No market info. needed</td>
<td>GOOD MARKET INFORMATION</td>
</tr>
<tr>
<td>No storage needed</td>
<td>STORAGE NEEDED</td>
</tr>
<tr>
<td>GOOD INCOME (NRs 5600)</td>
<td>VERY GOOD INCOME (NRs 7875)</td>
</tr>
<tr>
<td>HIGH LABOUR COSTS</td>
<td>NO CREDIT AVAILABLE</td>
</tr>
<tr>
<td>NO CREDIT AVAILABLE</td>
<td>Low risks</td>
</tr>
<tr>
<td>No market info. needed</td>
<td>No market info. needed</td>
</tr>
<tr>
<td>No storage needed</td>
<td>No storage needed</td>
</tr>
</tbody>
</table>

* Incomes obtained from a single 70 kg load of chiraita.

**DISCUSSION AND CONCLUSIONS**

**Benefits from the Chiraita Harvest to the Koshi Hills**

An estimated total of 140 tonnes of chiraita passed through the Hile-Basantpur roadhead during the 1992-93 trading season. With a typical price of 100 NRs/kg the total turnover was NRs 14 million (see table 1). With a catchment population of 85,000 households, the annual chiraita harvest provides an average of 165 NRs/household, or 5% of the average gross income of 3000 NRs/household (KMTNC, 1991).

However, the total income is distributed unevenly between four groups of beneficiaries:

a) collectors dependent on village traders for marketing to the roadhead;
b) independent collectors who market chiraita themselves;
c) porters, and;
d) village traders.
Based on the marketing process observed in Gongtala, and a number of tentative assumptions\(^1\), the annual income distribution for chiraita marketed by village traders can be estimated as follows:

<table>
<thead>
<tr>
<th>Income (NRs)</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200</td>
<td>to each of 5300 collectors' households;</td>
</tr>
<tr>
<td>1,200</td>
<td>to each of 1000 porters' households, and;</td>
</tr>
<tr>
<td>30,000</td>
<td>to each of 100 village traders’ households.</td>
</tr>
</tbody>
</table>

In addition, for chiraita marketed directly by independent collectors the estimate is:

<table>
<thead>
<tr>
<th>Income (NRs)</th>
<th>Recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,000</td>
<td>to each of 500 collectors' households.</td>
</tr>
</tbody>
</table>

At 1,200 NRs/year, an average household of chiraita collectors receives 40% of the average annual gross income of a household in the Koshi Hills. The collectors' income may seem low in comparison with the village traders’ income. However, chiraita collection is often an incidental activity alongside essential farm work while trading may be full-time for much of the year.

**Improving Collectors' Incomes**

Collectors' incomes could be improved by increasing the proportion of trade marketed by collectors directly to the roadhead and so bypassing a stage in the marketing chain. Probably far less than 50% of the NTFPs taken to the Hile-Basantpur roadhead is done so by collectors. The consequence would be a wider distribution of the incomes currently accruing to an estimated 100 village traders. For chiraita alone, this amounts to an estimated 3,000,000 NRs/year.

However, as discussed above, village traders perform essential marketing roles for collectors. To increase the proportion of trade marketed directly, the collectors' marketing requirements must be catered for elsewhere. This could be achieved by the formation of marketing cooperatives. By acting collectively, cooperatives could:

a) share the costs and benefits of direct marketing to the roadhead;
b) increase the access to credit directly from the roadhead traders or other sources;
c) develop a system to receive regular market information (Hammett, 1992a);

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\(^1\) The main assumptions are that: a) 75% of the trade (by weight) was marketed by village traders and 25% by independent collectors; b) a typical chiraita source is Kanigaun, three days walk from the roadhead; c) village traders stored their produce in villages two days walk from both the collectors’ villages and the roadhead, and sold when the price was 100 NRs/kg; d) each porter carried a maximum of 50 kg, had fixed wages of 75 NRs/day and made the circuit twice; e) independent collectors carried 70 kg, and f) there were 100 village traders. NB. The marketing of NTFPs in Nepal is almost exclusively a male activity: the income distribution within individual households is not known.
d) be an appropriate institution for common property management, and;

e) undertake basic processing or quality control on sufficient scale for the establishment of price differentials between grades.

If there is such an apparent need for cooperatives, why have they not already evolved, especially in East Nepal where the trade is well established? Do the costs of marketing justify the village traders' incomes? Perhaps the current close relations between some traders and communities of collectors are already considered equitable.

Another option is the development of a local level market information system that improves the collection and dissemination of information on market demands and prices. This has been tried successfully, for example for the marketing of social forestry products in the Philippines (Hammett 1992b). However, experience from East Nepal raises the following points.

An informal system already exists in the Koshi Hills on account of the continual passage of porters and farmers to and from roadheads, bazaars and villages. Also, the most important market information concerns the seasonal fluctuations in price. If these are both high and predictable, then it is worth villagers obtaining regular price information. The majority of NTFPs are marketed to the roadheads during a trading season that lasts from October to April. Throughout the previous trading season there was a general increase in price. Over three months, from November 1992, the product with the greatest change was *rittha* which increased by 65%. For the main commodities leaving the Koshi Hills — chiraita and cardamom — the increase was 30%. For chiraita, the rate of change was stable; for cardamom it was haphazard.

When compared with the rate of interest on loans and the risk of loss while in storage, a price change of 30% is not very significant. Also, in particular for cardamom, the fluctuations appear to be difficult to predict. For both reasons, market information may only benefit those living close to the roadhead who can market their products quickly. In general, price fluctuations may not be a major factor for collectors' marketing decision-making.

A market information system would benefit only those collectors who are not dependent on the other marketing functions supplied by village traders, for example the provision of credit and labour. If the viability of middleman enterprises is jeopardised, the existing marketing chain could be weakened for those who will continue to depend on it. Consequently, a market information system should only be developed alongside institutions that are able to substitute for collectors' previous dependence on village traders, for example cooperatives or forest user groups.

The NTFP trade in the Koshi Hills is well established and competitive, but regional variations in local level NTFP marketing are likely to be high. Relations between traders and collectors may not always be as equitable as they are in parts of the Koshi Hills.

Cooperatives and local level market information systems may be more suited to:

a) areas with less competition and a recently or poorly established trade;

b) areas where the traders and even collectors are outsiders, for example resin tapping operations in the Far West;
c) products with low volumes and high values, for example *Morchella* mushrooms, for which direct marketing by air to Europe is economic, and;
d) products which can be processed in villages and have established markets, for example jatamansi oil.

The remote and sparsely-populated regions of Nepal’s Far West have some of these characteristics.

**Adding Value in Nepal**

Private investors in Nepal are being encouraged to develop the medicinal and aromatic plants sector. Ideally, development would include decentralised processing with small scale extraction and distillation plants, more efficient marketing channels, and the use of cultivated raw material to allow greater quality control and stability of supply — important requirements for herbal extracts and essential oils if they are to compete on the world market (Durbeck and Wildner, 1993a). The way forward is for Nepal to produce extracts or oils for which there is a comparative advantage, for example from species peculiar to the Himalaya. Two lesser known products with good market potential in Europe and USA are the essential oils from *Zanthoxylum armatum* and *Nardostachys jatamansi* (Durbeck and Wildner, 1993b).

Of more relevance to rural development, however, is the prospect of village level processing. A range of small-scale enterprises may be possible for NTFP collectors, user groups or cooperatives. In theory, these could be based on improved cleaning, grading, drying, storage or packaging of products, harvesting nearer to maturity, or collecting material with higher proportions of active ingredients. In contrast to small-scale distillation plants, these activities require few inputs other than labour, give greater local control and less chance of distortion of local power structures.

Unfortunately, the Indian NTFP markets have few quality requirements for the trade in Nepal to build upon. Some of the few instances where traders differentiate between grades are described above. These, and other examples, may identify opportunities to improve the overall quality, and the quality control, of traded raw material. However, further efforts are unlikely to interest Indian buyers unless undertaken on a large scale. Through working with user groups and cooperatives, different grades could be sold in larger quantities. Even then, discerning buyers — who are prepared to distinguish between grades — may only come with the development in Nepal of decentralised processing facilities and more efficient marketing.

**Promotion of Cultivation**

The promotion of cultivation on private land seems the best way forward for threatened and unmanaged populations of high altitude herbs. The alternative is common property management of wild populations, but the considerable areas over which they are collected would make access restrictions extremely difficult to enforce. Cultivation could take the pressure off collection from the wild. It could also support small-scale processing plants through greater quality control and stability of supply.
However, promotion of cultivation on private land will be of limited benefit to farmers who can not afford the necessary land, labour or capital. Cultivation may not reduce collection from wild sources which may be carried out, in parallel, by a different sector of the community. Before extension services promote NTFP cultivation, the possible effects of increased production on producers’ prices should be understood. In this regard, the highly successful promotion of cardamom cultivation on private land in East Nepal gives cause for concern. It can involve a long-term change in land use, and yet Nepal has little knowledge of cardamom demand and market flexibility.

Price information is available for NTFPs in East Nepal for 1978 and 1981 (Burbage, 1981) and 1993 (author's field data). Most of the NTFPs traded for the last 15 years have maintained their approximate value in real terms. Only chiraita shows a significant price increase above the rate of inflation. Although the data are tentative, this line of investigation will indicate which products may be promoted in the long-term with less chance of a collapse in demand, or price fluctuations that jeopardise the viability of management or processing activities.

The apparent long-term price stability of chiraita suggests that research into its cultivation would be valuable. Also, it is a biennial herb and so cultivation would not require long-term land use changes. However, there are eight other species of Swertia commonly used in India as substitutes for, or adulterants of, chiraita (CSIR, 1985). All the substitutes have inferior bitter tonic properties, but nevertheless their trade may affect the chiraita market. Clearly, there is a tremendous amount of information held in India that must be learnt before the potential benefits to Nepal of the NTFP trade can be realised.
REFERENCES


Hammett, A L, (1992b), `Development of a local level market information system for social forestry products: A Philippine example', Report submitted to Community Forestry Unit,
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