

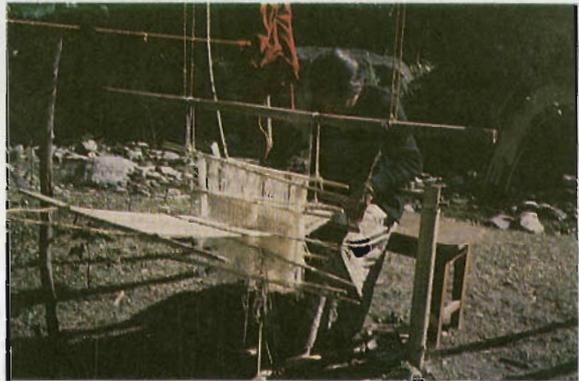
habitats (herds). Others may have a uniform flow throughout the year (milk). Additionally, the flow of many highland products may not be uniform throughout the year and exist seasonally, with flows peaking immediately after the harvest season and thereafter completely disappearing from the market. For example, many horticultural products, seasonal vegetables, cotton, and mountain tourism all such seasonally.



Framework and Literature Review

INTRODUCTION

There are many products, in the form of raw materials, semi-finished, finished, and agricultural products; manpower; and others that originate and provide the basis of economic flows from the highlands. The value of some of these flows can theoretically be assessed in monetary units. However, other flows originating from the highlands are not easily measurable and assigning values is not easy. For example, the flow of water from the highlands to generate power consumed in the lowlands and urban areas is not easily quantifiable, or at least the portion of the revenue generated that must accrue to the highlands is not easy to determine. Additionally, the markets for many highland products are far away from where the products are cultivated or harvested, and local prices are often many times lower than market prices. Using local prices does not reflect the true economic value of the resource.



Quantifying the total volume of the different highland flows and valuing them are both problematic in the absence of reliable information. As a start, therefore, it is useful to classify the different factors and products in the form of raw materials, semi-finished, finished, and agricultural products; manpower; and others into meaningful groups in order to measure the economic flow. While some may be cultivated (horticultural products, vegetables) others are directly harvested from their natural

Weavers are able to sell their products to tourists occasionally, but "local prices are often many times lower than market prices."

habitats (herbs). Others may have a uniform flow throughout the year (milk). Additionally, the flow of many highland products may not be uniform throughout the year and exhibit seasonality, with flows peaking immediately after the harvest season and thereafter completely disappearing from the market. For example, many horticultural products, seasonal vegetables, migration, and mountain tourism exhibit such seasonality.

This Chapter is divided into seven sections. Since many resources flow from the highlands to the lowlands, it is important to classify the resources into different groups and subgroups based on certain criteria. The classification can be carried out in different ways, but here a simple approach is followed which is elaborated upon in Section 2. Different characteristics of the resources, as manifested in terms of their spatial distribution, yield and harvests, trade, and so on, are discussed in Section 3. Different methods used to study economic links are briefly discussed in Section 4. However, in the case of Nepal, severe information gaps are the main limitations to application of any method. Consequently, a simpler framework that relies on marketing is discussed in Section 5. In Section 6, a short review of some pertinent literature on products traded from the highlands is provided. A critical evaluation of the different information sources used in this study is given in the last section.

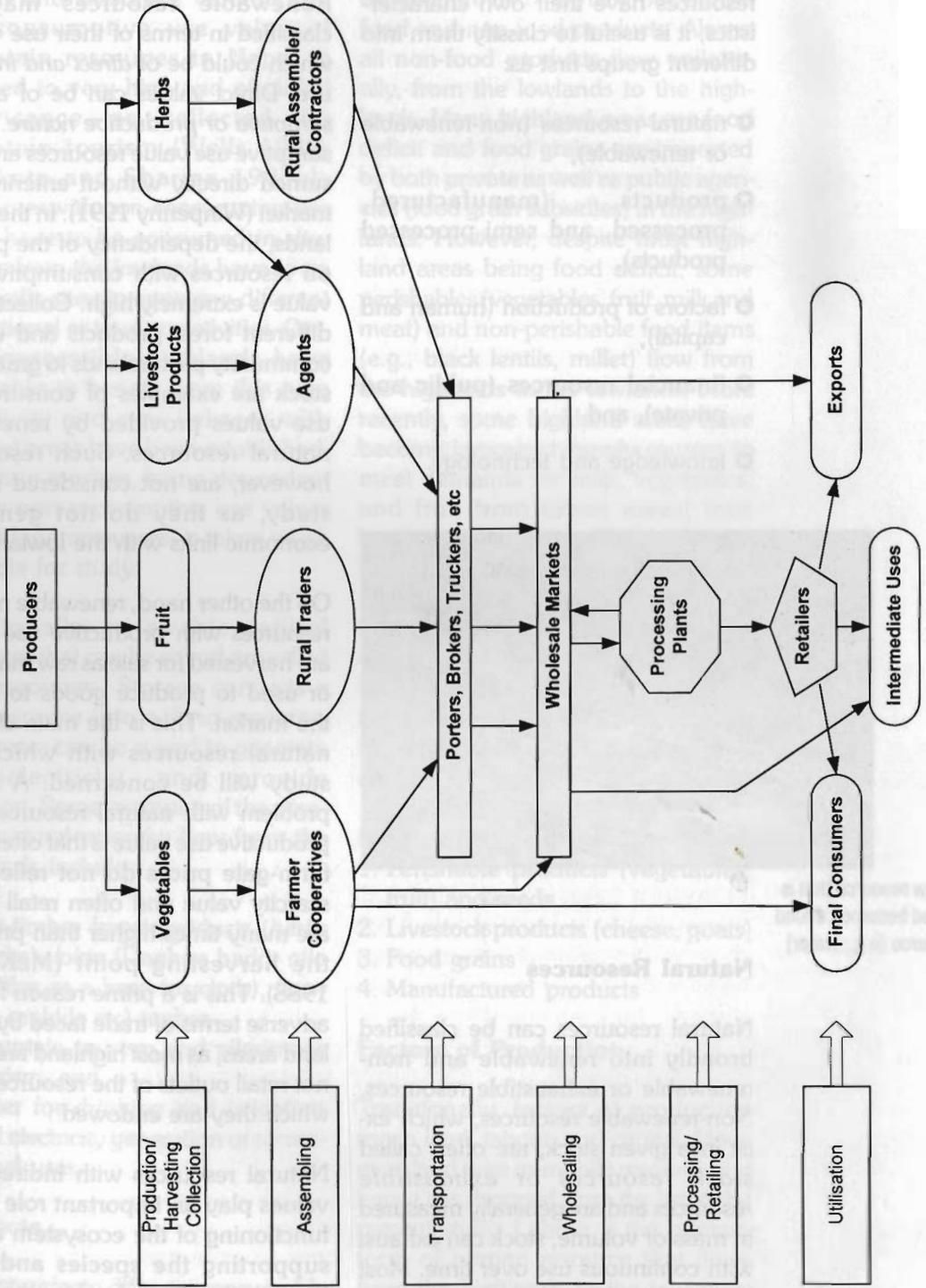
CLASSIFICATION OF HIGHLAND RESOURCES

All resources that flow from the highlands are not of interest to the present study. Only those resources that are

traded and for which information on volumes and values of flow exists will be examined. Additionally, only traded resources flowing unilaterally from the highlands to the lowlands are taken into account. All resources found in the highlands are not necessarily in demand in the lowland areas. Thus, it is first necessary to list all the important highland resources that are in demand in the lowlands. The demand for highland resources may be for local production activities to produce goods and services that may be locally consumed and exported. If the entire production activities are such that they fulfill a highland demand and create no demand in the lowlands, such resources are not considered as contributing to highland-lowland economic linkages. However, if the resources are used for production of goods and services that are in demand in the lowlands, or if the resources have a derived demand in the lowlands, a basis for economic linkage is then provided (Figure 2.1).

In the first place, resources need to be defined. The resources that flow between highlands and lowlands can be of many types, from raw materials to finished products and development funds, and they can flow from the private as well as the public sector. Natural resources can be renewable or non-renewable. Renewable resources can be of two types, flow and fund resources. A flow resource that is stored becomes a fund resource (e.g., water). Factors of production (labour and capital) also flow from areas where returns are low to areas where returns are high. Services are important resources that need to be considered. Also, the flow of knowledge and technology derived from research can also have implications

Figure 2.1: Marketing Channel for Major Highland Products



on highland resource use patterns and flows. Because different types of resources have their own characteristics, it is useful to classify them into different groups first as:

- ✦ natural resources (non-renewable or renewable),
- ✦ products (manufactured, processed, and semi-processed products),
- ✦ factors of production (human and capital),
- ✦ financial resources (public and private), and
- ✦ knowledge and technology.



A flow resource that is stored becomes a fund resource (e.g., water)

Natural Resources

Natural resources can be classified broadly into renewable and non-renewable or exhaustible resources. Non-renewable resources, which exist in a given stock, are often called *stock resources* or *exhaustible resources* and are generally measured in mass or volume; stock can exhaust with continuous use over time. Most highlands in Nepal are not known to be endowed with large deposits of exhaustible resources.

Renewable natural resources can be exploited on a sustainable basis. Renewable resources may be classified in terms of their use value, which could be of *direct and indirect use*. Direct values can be of a *consumptive or productive nature*. Consumptive use value resources are consumed directly without entering the market (Winpenny 1991). In the highlands, the dependency of the people on resources with consumptive use value is extremely high. Collection of different forest products and use of community pasturelands to graze livestock are examples of consumptive use values provided by renewable natural resources. Such resources however, are not considered in the study, as they do not generate economic links with the lowlands.

On the other hand, renewable natural resources with productive use value are harvested for sale as raw materials or used to produce goods to sell in the market. This is the main class of natural resources with which this study will be concerned. A major problem with natural resources and productive use value is that often their farm-gate prices do not reflect the scarcity value and often retail prices are many times higher than prices at the harvesting point (McKneely 1988). This is a prime reason for the adverse terms of trade faced by highland areas, as most highland areas are not retail outlets of the resources with which they are endowed.

Natural resources with indirect use values play an important role in the functioning of the ecosystem and in supporting the species and their habitats that are valued for their productive and consumptive purposes. Indirect use value resources can be

divided further into those providing non-consumptive uses and having option and existence values. The non-consumptive use value of mountain resources in Nepal is believed to very high and of global significance—as reflected by mountain tourism (Wells 1992; Banskota and Sharma 1995b). Resources with non-consumptive use value have to be consumed *in situ*. People from the lowlands have to go to specific sites to consume different recreational or tourism activities. Certain inaccessible highlands have been able to benefit from this type of activity and new linkages with lowland areas have been established. Mountain tourism, being dependent on the non-consumptive use values of highland resources, is taken as an example for study.

Additionally, renewable natural resources that can be stored are called fund resources. Storage converts a flow resource into a *fund resource*, e.g., water can be stored to generate hydroelectricity and provide irrigation. Some examples of the managed natural resource flow from the highlands include:

1. non-timber forest products (*herbs* (herbs), *lokta* (Daphne bark), *allo* (nettles as a base for cloth), flowers, orchids etc) timber,
2. mountain tourism and pilgrimage tourism, and
3. water for drinking and irrigation and electricity generation or recreational uses.

Products

Products refer to different consumable items that households and other sectors purchase for final consumption.

This group of resources may be the most significant in terms of household expenditure and may be grouped into food and non-food products. Almost all non-food products flow unilaterally, from the lowlands to the highlands. Many highland areas are food deficit and food grains are imported by both private as well as public agencies (food grain subsidies) in the highlands. However, despite most highland areas being food deficit, some perishables (vegetables, fruit, milk and meat) and non-perishable food items (e.g., black lentils, millet) flow from the highlands to the lowlands. More recently, some highland areas have become important supply sources to meet demands for milk, vegetables, and fruit from urban areas, thus breaking the traditional flow of natural resource-based raw materials. Large numbers of live animals are exported from the highland areas to meet the demand for meat in urban centres. In addition, livestock products, such as milk and cheese, are being increasingly exported from highland areas.

Examples

1. Perishable products (vegetables, fruit) and seeds
2. Livestock products (cheese, goats)
3. Food grains
4. Manufactured products

Factors of Production

Traditionally, factors of production mean land, labour, and capital. However, land is an immobile resource and hence it is dropped from the list in the present study. Labour is the primary form of human resource that flows from the highlands to the lowlands. Labour could be skilled, semi-skilled, or unskilled. The quality and quantity

of educational attainment and acquired skills determine the quality of labour. Most educated individuals migrate from the highlands to lowland areas in search of employment. Faced with chronic food deficit and lack of alternative employment outside of agriculture, people are forced to migrate elsewhere in the lowland market for the sake of jobs. The seasonal or temporary migration of adult males from the highlands to the plains is a well-known form of human resource flow. Literature cites both pull and push factors as being the driving forces of such migratory trends. While such migration may have created labour scarcities and an increasing burden on mountain women, it has also helped generate a more regular flow of income for mountain families in the form of remittances (financial resource) (Jodha 1998).

Generally, migration has been unilateral with flows from the highlands to the lowlands. Migration can be seasonal, temporary (longer duration), and permanent. Permanent migration may be seen as a form of labour flow that permanently reduces the supply of labour in the place from where migration takes place. Although migration has in general benefitted those who migrate, its impact on the wider mountain economy has been mixed. Income remittances to household members residing in the highlands have been the main economic link, but this income perhaps leaks out considerably to the lowlands in the form of consumption expenditure. Little is, however, known about the cost and benefit associated with such human resource flows.

Capital resources are all man-made resources or what could also be called

the means of production. Here the concern will be only with capital that can flow, as for example in the case of machinery and equipment. The availability of capital can have implications on the flow of other resources found in the highlands with consequences on the size of linkages, generation of benefits, and their distribution.

Inputs, such as seeds and chemical fertilizers, also qualify under this group. The flow of fertilizer and seeds to the highlands is substantial and increasing. Fertilizers were subsidised substantially but, in recent years, this subsidy (in the form of transport) has increasingly been curtailed.

Examples

1. Labour
2. Seeds
3. Fertilizers and other agricultural chemicals

Financial Resources (or Capital Service Flow)

Although highland areas receive grants and other development funds, there are considerable leakages of financial resources from the highland areas in the form of consumption expenditure (manufactured goods) and outflow of savings and remittance income to acquire property in lowland areas, to pay for children's education, and so on. Social transfer and public investment flows between the highlands and lowlands are also significant. This flow is generally unilateral, with flows taking place from the lowlands to the highlands, and can consist of cash and kind subsidies and other forms of grants for development purposes. Very often this flow to the highlands has been guided to meet

the needs of lowland dwellers, as in the case of large hydropower projects, through use of 'fund resources', namely, water. The flow of funds and the nature of secondary linkages arising through the purchase of materials and services outside upland areas are a poorly understood phenomenon in mountain development (Jodha 1998). Additionally, public funds in the form of subsidies and welfare (transfer payment) also flow from lowlands to highlands.

A number of financial institutions (commercial banks) and development organizations (NGOs) working in the highlands provide financial resources for different productive activities. These resource flows are vital for augmenting the production and economic links. Although the propensity to save is low in the highlands, little is known about the flow of savings and its use. Many households from highland areas are known to have invested in property in urban centres and lowland areas.

Examples

1. Remittances sent and received
2. Different forms of subsidy and grants
3. Private savings
4. Consumption expenditure leakage on imports to highlands
5. Secondary leakage (investments and importation of raw materials)

Knowledge and Technology

The knowledge generated through research has enabled substantial growth, primarily in the agricultural sector of many countries and in some highland areas such as Himachal Pradesh (Teotia 1993; Vaidya *et al.*

1987). Knowledge and technology may also be considered as resources that are generated through research. If research is focussed on mountain-specific problems, it has potentials to generate new knowledge and technology that can help the highlands develop. So, important issues here may be the allocation of research funds to mountain problems and the size and flow of the benefits of mountain-specific research vis a vis lowland areas. Highland areas are storehouses for many endemic and threatened species of which the potential value to mankind in the form of new medicines, recreational activities, and aesthetic values could be substantial. Research can identify sustainable ways to harness the highland resources (McKneely 1988).

DOMINANT FEATURES CHARACTERISING HIGHLAND RESOURCE PRODUCTS

The different resource products (RP) (meaning all groups identified above) exhibit different characteristics and have implications on the flow process. A proper understanding of mountain specificities and their imperatives is perhaps the first step towards assessing the dominant features of mountain-resource products. Among the important conditions characteris-

Improved accessibility increases mobility overcoming the inaccessibility aspect to some extent.



ing highland habitats, which separate them from the lowlands, are inaccessibility, fragility diversity, and niches. All these mountain characteristics (which are interrelated due to their common bio-physical foundations) and their implication on the highlands have been well discussed in the literature (Jodha 1992). Below are listed some characteristics that may influence the flow of resource products from highland areas.

Traded Resource Products and Their Spatial Distribution

Identification of the spatial distribution of highland resources becomes essential to the understanding of specific characteristics of resource products, their origin, and nature and pattern of flow in order to narrow down the scope of the study. Understanding the spatial dimension or the place of origin of resource products is an important prerequisite to understanding the management of resource supplies. The extraction of resource products that originate from a specific geographical niche can be taken as more risky in terms of long-term sustainability. This may not be the case, however, for those resource products¹ that originate from spatially diversified areas. It is important to identify major geographical niches and/or spatially diversified areas in order to understand the nature and magnitude of resource flow.

Ownership Rights

Many resources that flow from the highlands to the lowlands are natural resources (herbs, medicinal plants,

and other forest products). These natural resources are either publicly owned or owned by the community and often qualify as being of open access regimes. Supply management becomes a difficult task when property rights are not clearly defined. In situations such as these, there is a tendency to over harvest resources, as incentives for conservation are poor. When ownership is defined and can be enforced, as in the case of privately-owned resources, such problems are minimised. It thus becomes important to understand the issue of ownership of natural resources to assess the nature of resource flows and their sustainability (McKneely 1988).

Seasonality

Many highlands are not easily accessible and this problem is exacerbated during the peak monsoon seasons. Additionally, since most natural resources that flow out from the highland areas are renewable resources, harvesting can occur generally once a year. The implications of this seasonality phenomenon on supply management and resource pricing need to be understood as it has implications on the generation of income and employment also. Transport is also hampered during monsoon with adverse impacts on marketing and economic returns. Seasonality, however, must not be seen as an obstacle only, as many food crops in the highlands ripen weeks in advance of lowland areas (Teaotia 1993). This seasonality can be of importance in marketing vegetables and horticultural products from the mountains in lowland areas.

¹ As opposed to an aesthetic resource, e.g., environment.

Yield and Harvest

Renewable natural resources as well as supplies of agricultural products are determined by the annual yield or harvest rates. If annual harvest rates exceed sustainable yield rates, resource degradation and extinction are likely. Additionally, when resources are owned by the community or the public, there is a tendency to over extract or harvest the resource since it is not in the interests of the community to conserve such resources if appropriate incentive mechanisms are not in place. For management of supplies, understanding the stock and flow are important.

Volume and Magnitude of Resource Flows

The magnitude of the flows needs to be assessed for several important reasons. In the first place, the size of the flow is directly dependent on the stock of the resources. Whether the existing stock can sustain the current flows is an important question that needs to be addressed in the case of highland areas that specialise in the export of flow resources that are not privately owned. Quantifying the flows is a necessary step to understanding the volume of benefits generated.

Institutional Factors

The nature and extent of different types of institutional support required for commercialisation and specialisation of mountain resource products based on their natural comparative advantages also determine, to a great extent, the magnitude of flows and hence the economic link between the highlands and lowlands. Resource products that are largely supported by

government and non-governmental institutions (agencies providing financial and extension services) naturally have better marketing and economic linkages than those that receive no support. While institutional support has been traditionally focussed on horticulture, dairy farming, and tea cultivation, many resource products (herbs, medicinal plants, and non-renewable resources) in the highlands receive no such institutional support. Furthermore, institutional service delivery linkages as a precondition to economic links are believed to be most available in those areas where there are NGOs supporting production activities through the community-based organizations sponsored by them. At the same time, at the local level, it is being increasingly realised that helping local people organize themselves helps them create an effective demand for service deliveries and other production inputs. Such grass roots' organizations are becoming an effective medium for carrying out small development projects, marketing their farm produce, and conducting savings and credit schemes as well. Thus, organizing local communities is an important dimension of institutional development, with implications for resource management and marketing (Oakley 1991).

Social Factors

Another important characteristic of mountain resource products is the sociocultural setting and social linkages that cause the production, harvesting, and trading behaviour of farm households (producer/ collectors) to differ greatly from place to place. Important questions are whether harvesting, extraction, transport, and so on. are solely confined

to specific ethnic groups. How do their social linkages/relations affect trading behaviour? Are the resource extractions and marketing functions of native communities gradually replaced by outsiders from the lowlands?

AGGREGATE STUDY METHODS

Different methods are available for studying economic linkages (Bendavid-Val 1991). These methods demand comprehensive information about a broad range of issues related to production, transportation, consumption, and trade which, in the case of highland areas of Nepal, are completely missing. The general purpose of the different approaches used to address economic links has been to investigate and compare the economic characteristics of an area and its relationship with other areas by addressing a number of issues related to:

- ❖ levels, sources, and distribution of income and employment;
- ❖ sectoral and subsectoral composition of economic production activities;
- ❖ interdependencies among sectors and subsectors;
- ❖ characters, intensities, and consequences of economic flows to and from purchasers and suppliers from outside the area;
- ❖ patterns of change in the measures; and
- ❖ how the area compares with other areas and the country as a whole in the measures selected for comparison.

The input-output model has been used widely to study inter-industry linkages. Each industry that is engaged in production has to purchase inputs such as raw materials, semi-finished goods, and capital equipment from other industries or sectors. Labour must be hired and labour can provide a variety of skills. The industry must also pay taxes. Intermediate goods may have to be imported. The final output produced is sold to final users or to other industries or sectors that use the goods as inputs. Thus, across industries, there is continuous buying and selling of final goods from one industry by others—by final users or as intermediate products.

Input-output analysis examines the area inter-industry demand stimulated by the final demand of its goods and services. It tracks the production linkages of the industries and how these linkages generate income through final sales and employment. Income and employment multipliers are generated, and these describe the additional income and employment generated in the production process through the sales of final goods to other sectors and industries. An input-output model attempts to deal with basic questions such as:

- ❖ what are the nature and economic effects of inter-industry production linkages in the area in question? and
- ❖ how do these linkages translate into multiplier effects associated with outside, consumer, and government demand for an area's products?

Studying production linkages helps to identify the principal channels through which an area generates

income from outside by exporting its products and also helps to identify the principal channels through which the area loses income multiplication potential because of imports. There are two kinds of inter-area production linkage, forward and backward. Forward linkages applies goods and services sent outside the area for further processing towards final sale. Backward linkages applies to what the area receives from the outside for further processing towards final sale. Often transport and distribution linkages are relevant also for understanding production linkages in more detail. These linkages must be considered in the forward and backward linkages as they add to the costs of the import or export. In this approach the main questions posed are:

- ⊛ what are the nature and features of the main forward and backward production linkages between the area and other areas of the country? and
- ⊛ how are these linkages expressed in terms of area of exports and imports?

A third approach is flow study. Flow studies are conducted generally over the period of an entire year to document the flow of major goods across the borders of an area. The goods selected are the ones that figure significantly in the area's economy. Other goods that have potentials for

harnessing/exploitation may also be documented. Flows are documented in terms of quantities at different points, the mode of transport used, and the place of origin of the goods and their destination outside the area. Such flow studies base annual flow estimates on sample surveys, but they are supplemented by surveys at origin and destination points. Wholesalers are also a good source of information in such studies. The principal questions asked in a flow study are:

- ⊛ what volumes and values of selected goods flow across the borders of the area? and
- ⊛ what means, at which points, in what directions, and between which origins and destination do the flows take place?

Yet another approach used is known as the income accrual analysis. Agricultural growth can lead to substantial non-agricultural sector growth as agricultural incomes rise. This is partly made possible because agricultural growth demands more inputs, more processing activities, marketing, and transport. Increase in household expenditure also means increasing expenditure on non-food items. Thus, agricultural growth stimulates a strong growth link with the non-agricultural sector. The main issue in this study is concerned with growth in a leading sector and secondary growth in other sectors of the economy.

On Site Effects		Off Site Effects
Erosion		Sedimentation
Loss of organic matter	Decrease in root zone	Decline in reservoir capacity
Decreased land productivity		Loss in irrigation, hydroelectricity and flood control services

A tendency in the past has been to ignore the depletion of natural resources and environmental degradation in the national income accounts. Renewable natural resources are capital stocks and their depletion, although it increases income in the short-run, diminishes the future scope of income streams. A physical and financial flow of resource accounting will need to be developed to understand the economic and environmental linkages between the highlands and lowlands. This approach is known as the resource accounting approach and, more recently, this approach is being used to adjust national income (GNP or GDP) to reflect depletion of natural resource stocks.

One growing concern has been the estimation of on site and off site impacts. In many instances, certain actions taking place at one site have off site impacts. Soil erosion is a case in point. Soil erosion is the process through which soil particles become detached from a place of origin and are transported and deposited elsewhere by means of wind or water. Soil erosion is an upstream phenomenon and deposition of soil or sedimentation is a downstream phenomenon. Impacts from soil erosion (on site) and sedimentation (off site) can thus be classified as on site and off site impacts (see chart below). These impacts can be translated into economic links of different types.

Quantifying and estimating the impacts (on site and off site) have been challenging from both the methodological and quantification points of view. Two approaches have been used to estimate the loss in productivity of land resulting from soil ero-

sion. The first is to directly estimate the relationship between crop yield and soil depth using the soil loss damage function. The damage in terms of yield loss can then be valued by using the price of the crop under consideration. The more variables that can be treated in the model, the better the results obtained, although this can also add to complexity and cost (Carson 1989). However, when data constraints limit such application, the alternative approach is to use replacement cost method. The basic premise of this method is that cost incurred in replacing a productive asset (land) can be interpreted as an estimate of the benefit presumed to flow from measures taken to prevent that damage from occurring (Dixon *et al.* 1996). The quantity of nutrient carried away by eroded soil is estimated and valued using appropriate prices to derive the on-site value of damage from soil loss.

In addition to the above approaches, several other methods have also been used to study linkages. In the general interaction studies, the main analysis is on trade, the dominant characteristics, operating efficiency and linkages, and suggestions about potential expansion of the inter-area trade. In the extended commodity trade systems' analysis the focus is on marketing and marketing channels, particularly on exports from the area, linkages from the point of production to the point of export, and how income is earned and multiplied in the area. The resource sector report addresses how different sectors of the area economy interact with major natural resources, and how certain major problems and opportunities are associated with the interactions.

MARKETING APPROACH

A proper understanding of market structure and the marketing channel and its functions is essential for an understanding of the factors governing the resource product flow between the highlands and lowlands. The marketing sector transforms the resources into purchases, and these are used for other production activities or for final consumption. In other words, markets determine prices and allocation of resources, although, in the case of certain resources, this is not true. Many factors relating to the market structure; the presence of externalities and other distortions resulting from government interventions in the form of fiscal, monetary, and regulatory policies; infrastructures; organizations/institutions; and knowledge among highland producers about market conditions—all play an important part in determining the efficiency of markets. The flow of goods from the place of origin to the place of destination involves a number of activities of transfer and intermediaries; and these are known collectively as the marketing process. The marketing process and its efficiency are determined by the structural characteristics of the market (Scott 1995).

Understanding the Structural Characteristics of the Market

Marketing efficiency of resources traded from the highlands is determined by the costs of performing the various marketing functions. The extent to which marketing functions are performed efficiently is mostly determined by the market structure and market conduct. Market structure is generally defined as the characteristics of the organization of a market

which influence the nature of competition and pricing behaviour within the market. Structural characteristics measure the extent of deviation from the perfectly competitive norms and influence the pricing behaviour.

Marketing Function

Marketing is the process through which goods and services are exchanged. The flow of goods from the place of origin to the place of destination involves a number of activities of transfer—known as the marketing function. The marketing function can be exchange; and this can be physical or facilitating.

The exchange function brings about changes in the ownership of products through buying and selling. There can be three types of buyers, namely, manufacturers and businessmen, middlemen, or consumers. The exchange function involves assembling which minimises the cost of transportation and helps standardisation and grading.

Physical supply functions are related to creation of utilities of place and time. The physical transfer of goods from the producer/manufacturers to consumers takes place by means of a) transportation and b) storage. Transport plays an important role in harnessing resources and supplying them to the markets. Market integration is also facilitated by a good transport network and helps reduce monopoly and improve competition. With good transport, processing units become relatively more feasible in terms of location in highland areas, thus enabling the generation of employment and value-added to highland products.

Facilitating functions are all supporting activities that contribute to carrying out other functions relating to financing, risk bearing, standardisation, market information, and promotion.

Marketing Channels

Marketing channels provide systematic knowledge of the flow of goods and services from their origin (producer) to their final destination (consumers). Marketing channels are distribution networks and may be either non-integrated (conventional) or integrated (Scott 1995).

In the non-integrated channel, manufacturer, wholesaler, and retailer bargain with each other and negotiate over the terms of sale. The channel of distribution can be both direct and indirect. In contrast to a direct distribution channel where the products are sold directly to consumers, the indirect channel follows the lengthier process of transferring the goods to final consumer/users through involving a number of intermediaries.



Haat bazaar (weekly market), the direct distribution channel

Integrated channels may be either vertical or horizontal and are networks in which channel components participate in a coordinated manner. There can be three types of vertical

distribution channel: administered, contractual, and cooperative channels. Horizontal channels involve an alignment of two or more companies to jointly exploit marketing opportunities either by themselves or by creating third entities. The process that links production to consumption can be either centralized or decentralized. In a decentralized system, producers and rural assemblers take on added responsibilities. Producers' organization replaces the wholesaler as production moves from its origin to the retailers.

Intermediaries in Marketing Channel

Markets are seldom complete without intermediaries, and this could apply to several types of group.

Producer: Rural assemblers, transporters or traders or producers, are the primary sources of supply to second agents and this relationship forms the first link in the marketing channel. Marketing decisions concern questions of what, when, and how much to grow or harvest/collect.

Middlemen or Business Intermediaries connect the producers and consumers. Middlemen could be either agent or merchant middlemen. Agent middlemen are engaged in wholesale dealing and get a certain percentage of commission on the volume of purchase or sale negotiated by them. Brokers, commission agents, and manufacturing agents, selling agents, resident buyers, and warehouses function as middlemen. Merchant middlemen buy and sell goods on their own account/risk and resell the products at profit (e.g., wholesalers and retailers).

Wholesalers assemble goods coming from various sources for retailers to buy. At this stage in the channel, wholesale prices are established depending on the producer price and trader margin. Wholesalers provide information to suppliers (growers, assemblers) and assume the risk associated with buying and selling.

Retailers are the connecting link between wholesaler/manufacturer and final consumers

Producers and consumers' associations include professional associations and farmer cooperatives that regulate and influence the production and marketing processes. They could also be consumer associations that substitute for middlemen and have an impact on marketing margins.

Government institutions or companies include all government organizations that guarantee minimum prices to the producers and regular price-controlled supplies to consumers.

Marketing Margin

The proper understanding of marketing channel and marketing function provides the basis for examining the marketing cost or margin at various stages of the market. Marketing efficiency is examined by analysing marketing margins to find out whether these margins are fair or not.

Exchange activities generate income for sellers. Not all of this income is pure profit and a big marketing margin may in fact result in little or no profit or even loss for the seller involved. Marketing margin measures

the share of the final selling price that is captured by a particular agent in the marketing chain. Marketing cost, as well as buying and selling price, determine the margin. Furthermore, middlemen do not always earn a marketing margin. Many observers confuse a marketing margin with a trader margin. Margins and profits are largely influenced by the degree of market competition.

In a perfectly competitive market, the marketing margin should, on the average and in the long run, be equal to the cost of marketing—including cost of capital with a competitive return to labour, management, and risk. Of concern is the size of marketing margin, change in marketing margin, and the incidence of change in margin. Changes in factor price, market efficiency, and market service embodied in the product change marketing margins. Marketing margin may fluctuate due to perishability of the products, number of marketing channels, marketing services provided, and risks and uncertainty borne by each of the market participants (Scott 1995).

The perishable nature of highland products, such as fruit, vegetable, and livestock products; the seasonality of supply; and distances separating producers from ultimate consumers are some of the principal factors instrumental in the size of the various costs or margins. Furthermore, marketing margins provide only one point of reference in the evaluation of performance and should be compared with amounts of profit earned by marketing firms to determine whether or not margins are excessive.

Marketing and Pricing Efficiency

Traditionally, the efficiency of the market system has been looked at from two perspectives: a) technical or physical efficiency and b) pricing or allocative efficiency. The former relates to the cost of performing the physical function. Physical efficiency is generally considered to have increased when cost per unit of output is reduced through improving the technology involved in marketing functions such as transport, storage handling, and processing (i.e., reducing physical loss). The latter form of efficiency is achieved through pricing products at different marketing stages. More specifically, pricing efficiency is achieved when the following conditions are present (Acharya and Agrawal 1994).

- ❖ Price differences between spatially separated markets do not exceed the transportation costs.
- ❖ The intra-year price rise is not more than the cost of storage (the greater the correlation between the intra-year price rise and storage cost the higher the pricing efficiency and vice versa).
- ❖ The price difference between processed and unprocessed products does not exceed processing costs.

Hence, the pricing efficiency of the market is concerned with the extent to which prices at subsequent stages of marketing deviate from what the costs of performing the function of transportation, storage processing, and retailing warrants. In addition, it is also concerned with the ability of the market to transfer the price signal arising in one hierarchy of the mar-

ket to another (i.e., if the price in the terminal market increases, to what extent is it transferred to producer / farmers?).

Pricing Efficiency under Restrictive Trade Practices

Analysis of the pricing efficiency of the marketing system through the above approach is however blurred by government interventions in the forms of fiscal, monetary, and regulatory policies (Acharya and Agrawal 1994). An important question that immediately comes to mind is how the price would behave if there were less government interventions. The answer to this question calls for comparison of prices in the domestic market (e.g., highlands) and those in the global market using the concept of a nominal protection rate. Such a comparison could provide measures for protecting or doing away with the protection given to various commodities produced in the country.

LITERATURE REVIEW

This section briefly reviews the literature on some highland products. The literature is limited. A few analytical studies exist on marketing fruit, vegetables, and herbs, and these are limited in scope as they are case studies focussing on small pockets and a particular resource product. Moreover, these studies do not focus on highland lowland linkages in particular. Most of the issues discussed in the different studies are similar. Because of the similarities of the studies, identifying various marketing issues in the case of highland exports, namely, vegetables, fruit, and milk products, is also not possible. Additionally, non-renewable natural

resources, for which mining licenses are issued and are primarily exported, have not been studied. The partial nature of the information available therefore does not permit any comprehensive review of the highland-lowland economic links. There are a few studies on some herbs.

Based on the literature, it is pointed out that the development of horticultural and vegetable production has been *ad hoc*, with the emphasis being primarily on production. In the case of perishable products, such as vegetables and horticultural products, little attention has been given to post-harvest technology and product marketing. The studies identify that marketing is mostly in the hands of middlemen or commission agents who manipulate the operation and take a major share of the consumer rupee. Often the benefits accruing to highland producers are among the lowest in the entire marketing chain. There is no regulated market for fruit and vegetables, and the bulk of the transactions are carried out in wholesale markets managed or operated by associations, merchants, or commission agents. Producers on the other hand are generally unorganized, lack access to organized transport and storage facilities, and have poor packing materials—resulting in high losses. These factors have resulted in poor farm-gate prices for vegetable and fruit farmers. It is estimated that farmers receive only 20-25 per cent of the consumer rupee at the most. Neither the producers nor the consumers derive appropriate benefits under the prevailing marketing system. These results hold for most of the Hindu Kush highlands (Teaotia 1993; Swarup and Sikka 1987; HMG/FAO 1987; CEAPRED 1996).

Vegetables and horticultural produce are generally traded through different channels depending on the types of products and their origin. Generally, the flow of these goods in the market can be traced through three stages before reaching retail or export outlets.

Primary level sales exist at the village level where no physical structures exist to facilitate marketing operations. The sellers are usually village farmers who have little marketable surplus. Farmers usually sell their products to collection agents and sometimes they sell products directly to consumers. The collection agents sell the produce to larger merchants and get fixed commissions from them. Some agents are also known to operate with their own funds. These agents sometimes negotiate prices before harvesting against advance payment to the farmers. Because of cash needs and storage problems, small farmers are generally forced to sell their produce immediately after harvest when the agents come to their doors.

In secondary and tertiary markets, wholesalers are involved in purchasing goods from agents involved in the primary markets. At this stage, sellers are generally agents and farmers. The intermediary at this stage has more working capital and storage facilities, and hence stores produce anticipating a rise in price in future.

At the final market level, processed products (e.g., grain) are distributed through wholesalers and retailers to final consumers. Farmers are also found to sell their products directly in the final market depending on the accessibility and price difference be-

tween the final market and those offered by agents in the secondary markets.

More specifically, marketing channels differ by type of commodities/products and their origin. The products might

come from rural hinterland areas, other areas within the countries, or they might be imported. The general pattern of resource flows in the highlands and the marketing channels for different local products are shown in Figure 2.2.

Figure 2.2: Marketing Channels in the Highlands for Various Traded Resource Products

Food Grains								
Producers	to	Haat Bazaar	to	Final Consumers				
Producer	to	Local Buyer/Retailer	to	Final Consumers				
Producer	to	Buying Agents	to	Wholesaler	to	Retailer	to	Final Consumers
Live Animals								
Farmers	to	Buying Agents / Middlemen	to	Market Centre/ Butcher	to	Consumers		
Livestock Products (Ghee and Chhurpi)								
Producers	to	Buying Agents	to	Traders	to	Final Consumer		
Producers	to	Market centre/Hat Bazaar	to	Traders	to	Final Consumers		
Producers	to	Buying Agents	to	Wholesaler	to	Retailer	to	Final Consumers
Fruit and Vegetables								
Producers	to	Local Teashop /Consumer	to	Traders				
Producers	to	Wholesaler	to	Retailer	to	Final Consumers		
Producers	to	Assembler	to	Wholesaler	to	Retailer	to	Final Consumers
Producers	to	Assembler	to	Retailer	to	Final Consumers		
Cardamom/Forest Products								
Farmers/ Collectors	to	Buying Agents /Middle Men	to	Local Contractors	to	Traders/Wholesalers	to	Export to India
Collector	to	Village level Assembler	to	Buying Agents/Middle men	to	Wholesaler	to	Processing Plants (Nepal)
Collectors	to	Village Level Assemblers	to	Buying Agents	to	Wholesaler	to	Export

Source: SAPPROS 1998

Implication of Shorter Versus Lengthier Channels

The lengthier marketing chain observed for highland exports (e.g., forest products/herbs) indicates that payment farmers receive is negatively influenced by inefficiency. It also implies that there are more opportunities along the channel for adding value locally and which create additional jobs and income in the area. If the market is competitive, the transport costs and normal profit will always fully account for price differences. A relatively shorter marketing chain on the other hand implies that farmers receive a relatively higher proportion of the final market price and there is less opportunity for adding value between the farm gate and final buyers.

In short, the main points in horticultural and vegetable marketing may be summarised as given below.

- ⊛ Marketing of perishables is an expensive business because post-harvest operations (storage and transport) are beyond the capacity of individual farmers unless there are organized efforts to establish cooperative marketing centres and government-run wholesale marketing organizations in the highlands.
- ⊛ Storage is very important for efficient marketing but such facilities are expensive and require financing from cooperatives or government.
- ⊛ In the absence of established standards, packing with whatever materials are available is not only detrimental to the products but also harmful to the environment (e.g., timber extraction).

- ⊛ The lack of local processing industries in the highlands remains a serious obstacle to ensuring fair prices for farmers.

The situation is not much different in the case of herbs (Edwards 1993; Malla, 1994; Karnali Institute 1994; Rai and Sharma 1994; Bhattarai 1994; Sharma 1995; Amatya *et al.* 1995; Olsen and Helles 1997). Marketing of herbs in Nepal has remained a secretive trade and is one of the key factors responsible for low benefits accruing to highland collectors (Aryal 1993). The secretive nature of the trade limits the flow of information to collectors. Additionally, because these highland collectors are generally unorganized and sell small quantities to the road-head trader, their bargaining power is also limited. The road-head trader too does not appear to benefit much as he is dependent on *Terai* wholesalers who are equipped with capital as well as information. Although the study carried out by Olsen and Helles (1997) is strictly confined to the central region of Nepal (Gorkha), the case may be similar in the eastern (Edwards 1993) and western regions (Karnali Institute 1994) of Nepal. Annually, large quantities of herbs are exported and Indian traders in Delhi control the total herb trade.

Studies have not covered the production or supply response of these many highland products. With respect to herbs, the main points are (Amatya *et al.*, 1995; Edwards 1993; Olsen and Helles 1997) :

- ⊛ thousands of collectors sell to four to six *Terai* wholesalers (storage and transport) who in turn sell to Indian wholesalers who resell to

processors and retailers in India and also export to third countries;

- ⊛ collectors' margins range from 37 to 62 per cent; and
- ⊛ Nepali traders are entirely price takers from the larger traders of India, most of the products are exported.

Among the traders, the road-head trader makes the least margin due to various reasons. Conditions are, however, quite different for the *Terai* wholesaler whose margins are relatively higher since:

- ⊛ they have better information on Delhi wholesale prices, and
- ⊛ they are able to reduce storage costs as they purchase from the road-head dealer only at the opportune time.

INFORMATION BASE

Using any one of the above frameworks to quantify the economic linkages between the highlands and lowlands requires a vast amount of information. The information available is either insufficient or is not organized to address economic linkages. In the following Chapter, an attempt is made to use the available information to quantify economic linkages between the highlands and lowlands of Nepal. At this stage, this quantification is partial due to information gaps and, secondly, only one-way flow, i.e., flow from the highlands to the lowlands, is considered. Before quantifying the economic linkages, this section briefly discusses the sources of information used in the study (next chapter).

In the natural resource category, the resource products studied are herbs (Spikenard), mountain tourism, semi precious stones, non-timber forest products (*lokta* and *allo*). The Department of Forests (DOF) produces an annual report that provides information on the licenses issued for harvesting herbs (quantity in kg) by type of herb, district, and the royalty raised from the issue of licenses. Trade Promotion Centre (TPC) as well as the Federation of Nepal Chamber of Commerce and Industry (FNCCI) annually publish trade statistics that provide information on the magnitude of different exports items from Nepal to India and overseas (details by country are also provided). The primary sources of information for both TPC and FNCCI are the Balance of Payments' Department at Rastra Bank and the Department of Customs. Time series' data are available from these two latter sources. For some non-renewable resources (stone, sand, gravel, marble, etc) the Statistical Yearbook of Nepal has been used, and it only provides aggregate (national) information. In such cases, judgement has been used to determine whether the resource or product originates from the highlands or lowlands.

In other cases, individual sources had to be visited several times to obtain information. Information on the flow of vegetables and fruit by district and types of vegetable was gathered from the Kalimati Wholesale Marketing Office. The Dairy Development Corporation provided information on milk and milk products. These two sources have information that can be used for more in-depth studies. With

other resources and products, individual studies have been used and are noted in the appropriate places.

Another source of information used is based on the National Living Standard Survey (NLSS) conducted nationwide by HMG and the World Bank. Use of this database has helped to indicate the contribution of highland areas towards the supply of different food items consumed in urban areas. With growing populations in urban centres in different parts of the country, the increasing demand for different food items is being met by rural areas, some of which are in the highlands. The NLSS data presented here should be seen as indicative at this stage as the data are not fully

processed. The raw data were purchased from the Central Bureau of Statistics.

It needs to be emphasised that the existing information on the flow of highland products is extremely poor. The fragmented nature of the data, questions on reliability, incompleteness, difficulty in acquiring information from different sources (primarily HMG), and lack of record or reluctance on the part of different offices to release the information do not permit development of a macro, highland resource flow picture at present. However, selected information is presented and issues are discussed (Chapter 3) that bring out the need to focus on this subject.

INTRODUCTION

This chapter provides an overview of the major highland resource products. It deals mainly with their dominant features, magnitude of flow, and factors governing the flow process in Nepal. However, detailed information

The NLSS household survey is used to identify the flow of human resources from the highlands to the lowlands. Lastly, the flow of financial resources is also highlighted dealing with remittances sent by highland households to lowland areas and remittances received by highland