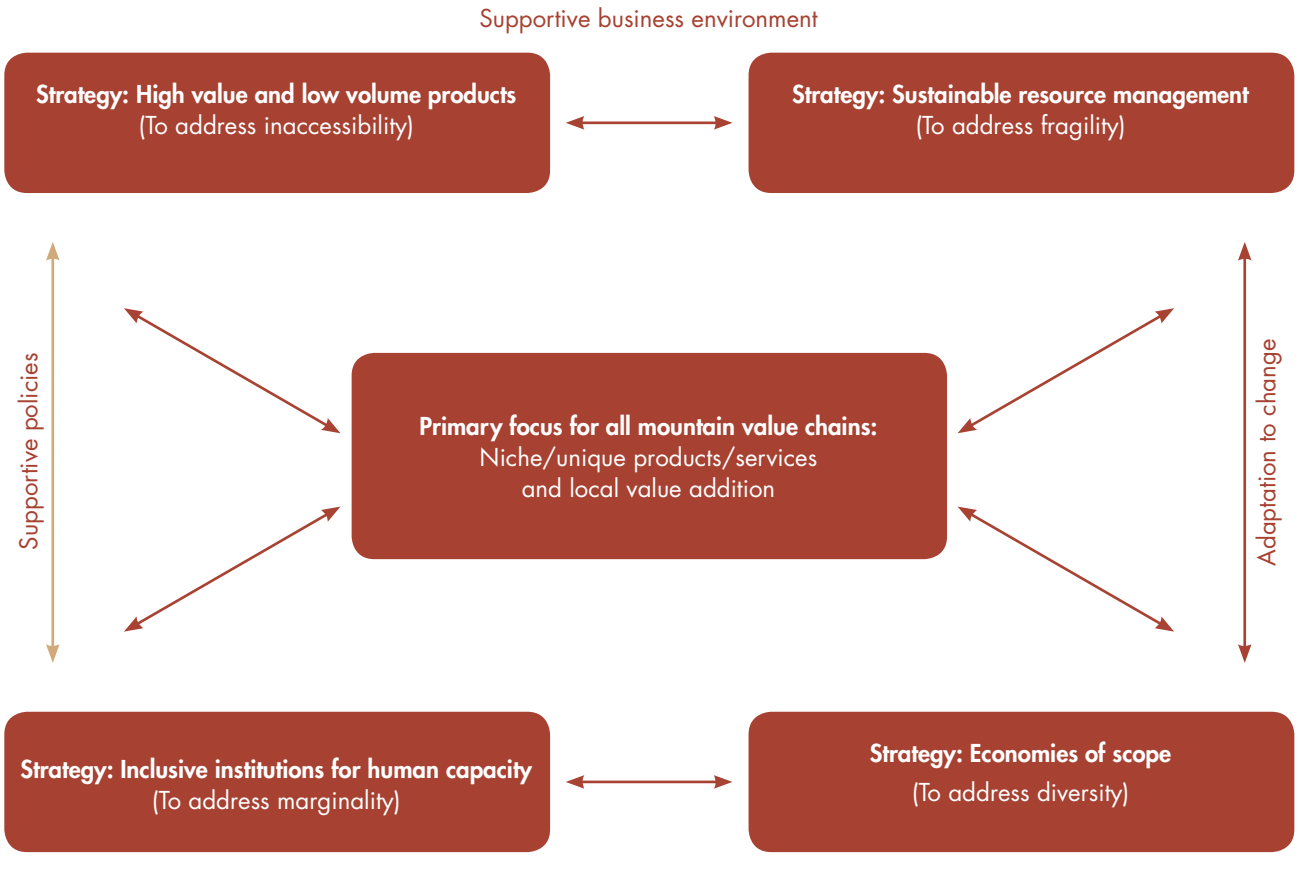
Strategic Framework for Mountain Value Chains

The previous section highlighted the importance of analysing mountain value chains according to their mountain specificities in order to identify which value chain has the greatest potential within the respective mountain context, and to recognise which mountain specificities are particularly dominant and relevant to the strategic orientation of the intervention. This analysis can be used to prioritise strategies according to the prevailing mountain specificities. Figure 5 presents the four mountain challenges (corners) in the context of an opportunity (centre).

The core strategy for any mountain value chain development, regardless of which challenge prevails, is the focus on niche or unique products or services with local value addition potential and opportunities for pro-poor growth. Four core adaptation strategies are suggested in line with the four mountain challenges. The application of these strategies can be prioritised according to the strength of the prevailing challenges.

For example, if inaccessibility is very pronounced, the core strategy is to focus on high value, low volume products. For fragility, the primary focus is on the sustainable management of natural resources and improved earnings through local

Figure 5: **Prioritised strategy set according to prevailing mountain imperatives in the presence of opportunities**

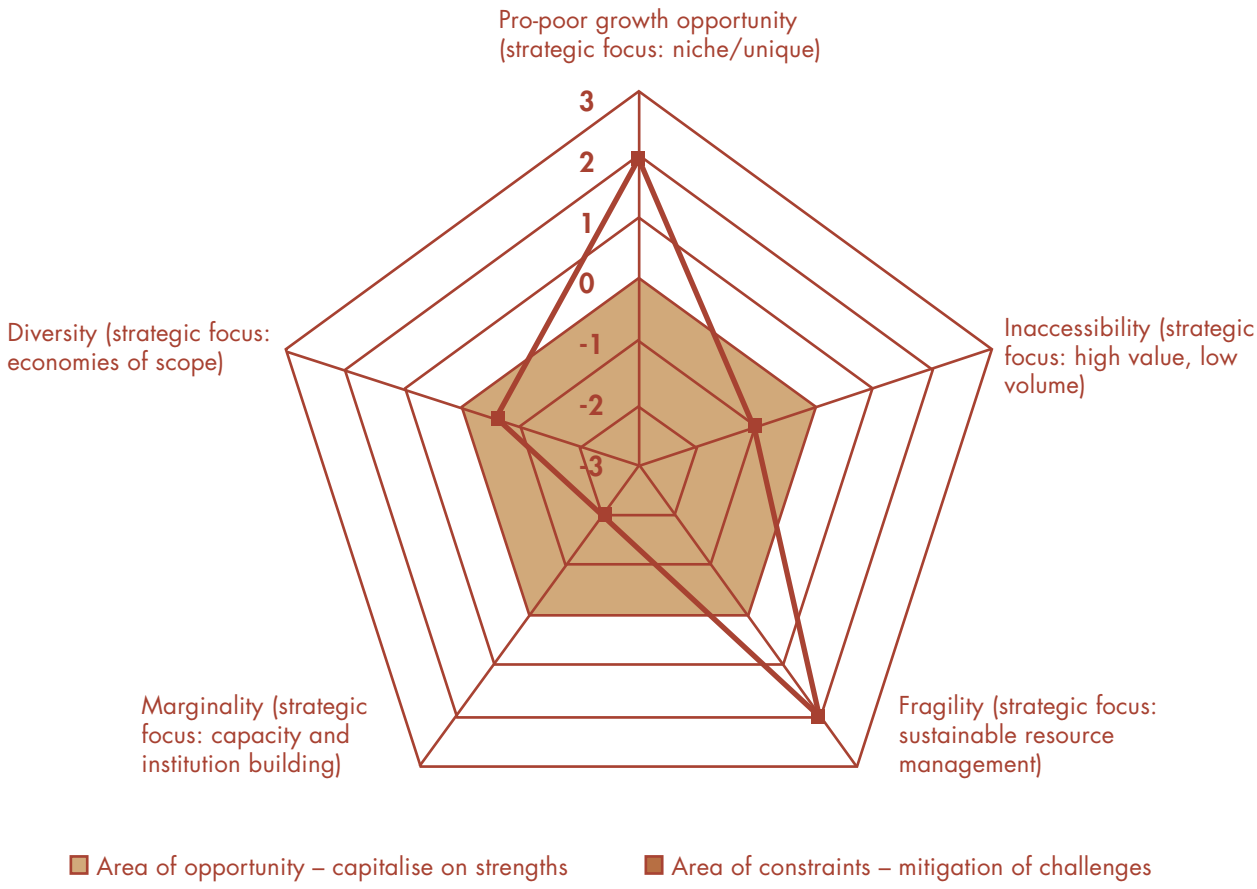


value addition, rather than increased raw material extraction. For marginality, the optimal strategy is to build mountain people's capacity, awareness, and visibility through the facilitation of enabling, inclusive institutions. Finally, for diversity, the most promising strategy is to focus on economies of scope rather than scale. As explained, mountain specificities are not independent components, but rather strongly interlinked. Thus an integrated strategic approach is required.

A spider-web diagram can be used to highlight the weight of each specificity, that is the rating of the mountain specific characteristics of a selected value chain (see Tables 2 and 3), as an aid for prioritising or combining strategies into an integrated strategic approach. Figure 6 shows a spider-web diagram map of the mountain specificities for seabuckthorn using the values shown in Table 3. As explained previously, the scale is from +3 (very good opportunity for VC development) to -3 (not very good or challenging environment for VC development). In the spider-web diagram, the challenging area (negative values) is differentiated from the area of opportunity (positive values). The seabuckthorn diagram shows that the opportunities for this product are high due to the niche. Challenges include the weak market capacity of mountain communities due to their marginalisation. In a case like this, the primary strategic focus would be to address these challenges through capacity and institution building, such as common facility centres, which allow greater gains to be captured by facilitating economies of scope at the processing level. Overall, strategies should be selected that capitalise on the strengths of mountain specificities with ratings in the opportunity area, and minimise and mitigate the aspects of mountain specificities with ratings in the challenging area. More generic value chain strategies, such as building a supportive business environment, facilitating supportive policies, or adapting to global change are also relevant for all the different scenarios.

Practical examples of the individual value chain strategies are presented in the following, based on the pilot activities carried out in the Hindu Kush-Himalayan region. Other equally important aspects like the consideration of boundary elements such as business development services, the policy framework, and global change parameters are also discussed.

Figure 6: **Mapping mountain specificities to set a strategic focus: the example of seabuckthorn**



Focus on Unique and Niche Products with Potential for Local Value Addition

Identification and development of unique and niche value chains lies at the centre of any value chain effort for mountain people. Only value chains of this type have a long-term and self-sustaining potential, and then only if managed sustainably, as they represent the unique comparative advantage that mountain products have over the plains. If the unique or niche element is missing in a mountain value chain, other more accessible and less fragile, marginalised, or diverse geographical areas will quickly and more successfully compete for the same markets. The comparative advantage of unique and niche products offers mountain producers a competitive edge over plains areas. Notwithstanding this, there are examples of how even this competitive advantage has been eroded, for example through the promotion of large-scale greenhouse facilities, which reduce the off-season competitive edge of mountain areas, or the industrial development of cheaper synthetic replicas of traditional mountain products, like cordyceps in China. Such substitutes can cause a complete collapse of premium markets, even though their chemical constitution might not be identical to that of, original mountain product. It is necessary to focus strongly on awareness-raising about the unique characteristics and high value of genuine mountain products

National- and regional-level consultations in the Hindu Kush-Himalayan region have shown that most countries rank high value product strategies as one of their highest areas of interest. Successful unique and niche examples include NTFPs, MAPs, organic food products, and mountain tourism. Farmers in China, India, Nepal, and Pakistan already have product and service-based partnerships, and benefit by producing revenue-generating high value products. Some areas, such as Bhutan, Kunming (China), Himachal and Sikkim (India), Ilam (Nepal), and North West Frontier Province (Pakistan), have already made substantial progress in identifying sustainable niche products and services (Jodha 1992).

The uniqueness and niche of a product or service is unlikely to contribute to poverty alleviation if the targeted mountain population are only resource providers and are unable to increase their share in the value chain. To reap greater benefits, mountain people require stronger value addition capacity and function in a given chain. Local value addition in mountain areas has beneficial aspects in terms of all four prevailing mountain challenges. For example, in terms of inaccessibility, the transformation of the raw material into products cuts its weight through processing; fragility is addressed by increasing

Leveraging the uniqueness of medicinal and aromatic plants in Bhutan, Nepal and Pakistan

by Dyutiman Choudhary, ICIMOD

A particularly valuable, but not yet fully explored, set of unique and niche products of mountain areas are the medicinal and aromatic plants (MAPs). There are many potentially valuable species that have not yet even been recognised by mountain people or the pharmaceutical, cosmetic, and food industries. Equally, the value of some plants is known to the market, but producers and collectors lack this market knowledge and receive only meagre returns. In the latter case, mountain people are strongly disadvantaged as they lack the information, capacity, and organisation to interact equitably with the market.

The strategy for overcoming this disadvantage is to improve information sharing, coordination, and networking among all actors in the value chain. The Medicinal and Aromatic Plants Programme in Asia (MAPPA) was initiated to do just this, with a specific focus on promoting strategic research, entrepreneurship development, and networking for efficient market linkages. Producer groups were established, which have improved primary processing and value addition at the local level, and have led to the adoption of quality standards, made market information more accessible, and improved bargaining power of the producers.

The producers' knowledge of pricing, processing, and marketing has improved, which has led to higher returns. In Nepal, the sale of annual and biannual species added an average of USD 200 per year to the household income of producers. In Pakistan, cultivating lemongrass *(Cympobogon citratus)* led to an income of USD 1,900 per acre (0.4 ha) in the Chagharzai valley, compared to an income of USD 375 per acre from traditional agricultural crops like wheat. Following this, value addition technologies were developed for five species through collaboration with research institutes, and women's groups were trained to produce and market the value added products.

Marketing the uniqueness of the Himalayas

by Ester Kruk, ICIMOD

Tourism is the largest and fastest growing industry in the world, increasing from 25 million international arrivals in 1950 to 842 million in 2006, with international arrivals expected to double to 1.5 billion by 2020. Mountains are important assets for the tourism industry. They have an estimated 15 to 20 per cent share of the global tourism market, generating between 100 and 140 billion USD per year.

With the highest mountain peaks in the world, different climatic zones with unique and rare flora and fauna species, and a variety of recognised unique anthropological hill and mountain cultures, the tourism potential of the Himalayas is beyond dispute. At the same time, the region is struggling with high poverty ratios, exacerbated by environmental degradation and climate change, making traditional livelihood options increasingly unsustainable. Tourism has been recognised as one of the most promising alternative livelihood options for the region, creating local income and employment opportunities for mountain people that can transform the mountain specificities into economic opportunities. Being labour intensive, having relatively high multiplier effects, and requiring relatively low levels of capital investment, tourism can generate tangible benefits in mountain areas where traditional livelihoods are under threat.

Although tourism has had a demonstrated impact on a more equitable economic growth in the Himalayas, its full potential for poverty reduction and for the improvement of the mountain environment has so far been underutilised. This is partly due to the fact that, on a macro-scale, the tourism potential and opportunities of the region are still largely unexploited. Another reason is that, to date, many mountain tourism development activities have been haphazard and unorganised. A lack of inter-sectoral coordination, combined with policy failures, a lack of supply side facilities and management and human resource development, and weak linkages between tourism and the local production system have caused high 'leakages' of local tourism-generated income, thus diluting the high multiplier effects of tourism income on the local economy.

Tourism value chain analysis can trace the tourist dollar so that appropriate interventions can be implemented to ensure that mountain economies get a larger share of tourism income. Through the careful selection, analysis, and development of promising tourism value chains in the region, it is possible to identify ways for the poor to enter or participate more, or more efficiently, in tourism value chains. This will help mountain people to identify and more successfully exploit the full range of production, income, and employment opportunities within mountain tourism value chains, and, thus, optimise their poverty reduction potential. Two decades of mountain tourism research in ICIMOD have shown that tourism by itself does not necessarily lead to mountain development, nor generate spontaneous benefits for mountain communities. Instead, deliberate efforts need to be made to link tourism to the local production system and community development if it is to realise its poverty reduction potential – a conclusion that has also been echoed in the lessons learned from later development projects (such as the Tourism for Rural Poverty Alleviation Programme in Nepal) and that has become a main focus in the recent pro-poor sustainable tourism movement. Mountain tourism value chain analysis and development is a useful instrument to ensure that mountain people benefit from mountain tourism.

benefits through value addition rather than increasing raw material extraction; marginality is reduced by organising value addition through community-based institutions, which also offer a platform for capacity building and an environment for economies of scope at the processing level. Most importantly, local value addition offers the opportunity to generate off-farm income, which is particularly relevant for landless and land-poor mountain people. Hence, value addition is one of the core concepts in leveraging a value chain for development.

Apart from material value addition, non-material or symbolic value addition merits particular attention within the context of the Hindu Kush-Himalayas. Symbolic value addition requires an understanding of the quality attributes of consumers. The strategy requires the valorisation of goods or services based on a territorial identity (Ray 1998). A well-known example is the highly profitable marketing of the Himalayas themselves, and linking of this territory with specific products and services such as Himalayan coffee, tea, handicrafts, or, most prominently, mountain tourism. Organic production, eco-labelling, certification, and standards are further examples of non-material based value addition strategies.

Concentrate on High Value and Low Volume Products

When inaccessibility is the most pronounced mountain challenge, the prime strategy is to concentrate on unique and niche mountain products and services that are high in value and low in volume. High value and low volume is the ideal mix to deal with inaccessibility and long and expensive transportation.

Value chain analysis shows that, although mountains in the HKH region are endowed with an extensive variety of high value, low volume products, especially MAPs and other NTFPs and honeybee products, most mountain communities are not sufficiently aware of the value of these products and of technologies that could help to decrease the weight of such products for transportation. The collection, processing, and marketing suffers from a multitude of problems, which in most cases prevents mountain people from adequately benefiting from the resources they are endowed with. The objective is to increase the awareness of mountain people about the value of selected products and services, as well to provide necessary technologies and capacity to locally reduce the weight of such products, which will add value and reduce transportation costs.

Commercialising yarcha gunbu in Bhutan

by Dyutiman Choudhary, ICIMOD

Cordyceps sinensis (yarsa gumba) is a high value medicinal plant variety found in the alpine regions of the greater Himalayan region. The area in which *Cordyceps* is found in northern Bhutan is home to one of the remotest and poorest communities in the country, who earn their livelihood from yak herding at high altitudes.

In 2004, the Government of Bhutan laid down a defined process to balance conservation and livelihoods through yarsa gumba. A committee was formed within the Agriculture Marketing Services (AMS) and auctions were organised. Only one member from each household was allowed to harvest, the harvesting period was limited to one month, and a local certification system was developed for traceability.

A basic minimum price of Nu 37,500 (USD 830) per kg was initially declared by the Government. However, due to competition between buyers, rates reached Nu 87,000 (USD 1,930) per kg. Before more competitors entered the market, the few buyers had made a sizeable margin; with competition their margin reduced in favour of the collectors. Collectors in northern Bhutan earned a considerable amount, with an estimated total 300 to 400 kg of *Cordyceps* sold. Nevertheless, the sudden rise in income also raised concerns with the Government of Bhutan. Questions arise as to the social implications of this enormous income to once impoverished and poor communities, and whether or not the collection restrictions will sufficiently conserve this natural resource.

Manage Natural Resources Sustainably

Mountain fragility, most commonly addressed by regulatory policies or community-based mechanisms for sustainable management, can also be addressed by increased local value addition. Value addition increases economic returns per unit, as opposed to mere extraction and supply of raw material, without environmental degradation. Further, the higher price achieved for the product or service increases the local communities' interest in using the raw materials sustainably. The focus is on intensification in terms of total value addition per unit of activity, rather than in terms of extraction through primary production. The sustainable management of natural resources in order to avoid over-extraction, which would eventually destroy the niche, must be a major concern for any product or service selection. It is a prime area for sensitive policy interventions in order to balance conservation and commercialisation.

Innovative, profit, or market-driven environmental conservation concepts that simultaneously address environmental and economic concerns are very valuable in the context of conservation requirements. For example, large cardamom, shed-grown coffee, various mushrooms, and herbs (all of which have high external demand) perform better in well-forested areas. The promotion of such products is directly linked to the precondition of environmental conservation (Papola 1998). Finally, by diversifying the demand for mountain resources and increasing off-farm value chains, the pressure on natural resources can be eased and cash inflow can be increased.

Garcinia gummi-gutta value chain in Karnataka, India: A perfect blend of commerce, conservation and local livelihoods

by Giridhar Kinhal, ICIMOD

Garcinia gummi-gutta, commonly known as gambooge or Malabar tamarind, is a medium-sized tree found in Karnataka, India. The fruit can be used as a culinary additive and fish preservative. The edible oil extracted from the seeds of ripe fruit is cholesterol free, can be used as vegetable butter, and also aids digestion. The fruit juice and syrup make a refreshing drink. Fruits are traded in local, regional, and national markets, and the rind is marketed in large quantities. The trees are often destructively harvested by cutting branches for their semi-ripe fruits. This method destroys the mother tree and leaves no seed for regeneration. Because the fruit is unripe, it is difficult to deseed and to collect the rind for drying, and less oil can be extracted from the undeveloped, sterile, and small seeds. This commercial destruction has replaced traditional non-destructive methods, which only used the seeds from ripe fruit fallen on the ground. Traditional harvesting practices do not destroy the mother tree, leave some seeds from fallen fruits for regeneration, and yield naturally ripened fruits that are easier to deseed and provide better quality rind in less processing time.

A participatory analysis of the value chain pointed to several non-competitive (and non-exclusive) uses of the rind, pulp, and seeds of this species. The local people involved in the process could understand the relevance and importance of a 'harvesting period' so as to obtain all the products simultaneously and maximise health and economic benefits, while ensuring the conservation of species. The sustainability factor rested on a quality harvest by hand picking fully ripe yellow-coloured fruit with good flavour and high medicinal value.

The processed material from a mature harvest is easier to preserve and lasts longer than material processed from unripe fruit. Rind from ripe fruit weighs more than from unripe fruit and fetches a 40 to 50 per cent better price. Regeneration of the species is also better as seeds from mature fruits have higher germination potential. Thus it is evident that a multi-product NTFP value chain makes the chain commercially stronger and ecologically friendly. It is equally important to highlight that such a value chain reduces the risk of price fluctuation for one or more by-products, thereby meeting livelihood expectations. This case study indicates that, while selecting a value chain for pro-poor development, preference must be given to species with multiple products that are non-competitive and non-exclusive.

Community enterprises and conservation of biodiversity

by Dyutiman Choudhary, ICIMOD

Non-timber forest products, previously used by rural communities for subsistence purposes and small-scale trading, are increasingly in demand by large-scale industries. The different end uses of NTFPs create competing demands for a limited resource base, which, if not controlled effectively with appropriate institutions and processes, may result in the irreversible loss of biodiversity. Balancing commercialisation with the conservation of natural resources is a major concern for the whole HKH region.

ANSAB, the Asia Network for Sustainable Agriculture and Bioresources, and partner of ICIMOD in pilot value chain development in Nepal, supported a micro-enterprise project in the village of Kailash in Bajhang district to demonstrate how local community institutions can balance income generation with biodiversity conservation through NTFPs. With the support of ANSAB, a forest user group formed Malika Handmade Paper Pvt Ltd in 1999 to produce handmade paper out of lokta, a shrub whose bark produces a fibre suitable for papermaking. The user group members conserve lokta in its natural habitat and harvest it sustainably.

The annual turnover of the enterprise in 2002 was NRs 294,000 (USD 3,818) with profits of approximately NRs. 105,000 (USD 1,363). The community forest has been certified under the Forest Stewardship Council certification for sustainable forest management. The model has been replicated in other regions of Nepal.

Facilitate Inclusive Institutional Integration for Competitiveness and De-marginalisation

Mountain regions are more vulnerable to market integration as they have been historically under-invested in and have experienced the negative socioeconomic effects of external interventions. Mountain integration requires the steady, but careful, improvement of mountain economies and communities.

A critical volume can be achieved for economies of both scope and scale through horizontal integration of mountain producers into self-help groups, producer groups, cooperatives, or facilitation centres, with additional gains in negotiation power and increased visibility. Experience demonstrates that appropriate rural institutions can facilitate market access and additional income generation, even with inadequate physical infrastructure (Dorward et al. 2003; Biénabe and Sautier 2005; Buerli et al. 2008). Such community-based institutions also offer a platform for capacity building. A main objective is to improve knowledge and skills on local value addition and product diversification; the sustainable extraction, management, and harvesting of natural resources; relevant policy frameworks; and basic entrepreneurship and marketing. Capacity building should not only focus on the introduction of new skills, but also strengthen and harness traditional knowledge for conservation, production, and processing. Apart from specific capacity building activities, skills and knowledge are built by integrating mountain producers into the value chain development process, i.e., participatory instruments should be considered whenever feasible. Interestingly, the marginality of mountain communities, which in several cases represents a weakness, is a strength in terms of cooperation, as remote communities have a strong sense of collectivism and social capital.

Once mountain producers are organised, it is more feasible to aim for vertical integration, i.e., more long-term agreements or contracts between upstream and downstream actors in the value chain. In additional, vertical coordination increases transparency and decreases transaction costs along mountain value chains. Through horizontal integration, mountain producers gain a stronger governance position in a value chain; through vertical integration they gain more volume, negotiation strength, fairer terms of exchange, and security. Last, but not least, the vertical knowledge transfer is an important learning mechanism for mountain producers.

Bay leaf value chain in Nepal - Horizontal and vertical integration successfully fights poverty

Within one year, strategic value chain interventions had a significant impact on the poverty level and policy discussions

by Michael Kollmair, Dyutiman Choudhary, Bishnu Hari Pandit, Giridhar Kinhal

The value chain pilot project for bay leaf in Udayapur district in eastern Nepal provided a successful example of the value of institution building and horizontal coordination. The value chain analysis indicated poor access to markets with farmers confronted by secretive and disorganised market systems and biased information flows. The result was that farmers reaped only small benefits, which was also due to their lack of awareness of how to add value. The farmers lacked the capacity to bundle their produce and achieve a critical volume for negotiation power, they had little idea of how this aromatic forest product could be processed and more sustainably managed and harvested, neither was there any efficient downstream market linkage or information. Indeed, the mountain communities in this pilot study were fully dependent on the demand of a single trader.

The main focus of the pilot activity was on institution building that could deliver a critical volume and capacity in the form of negotiation skills, value addition, and sustainable resource management. Following a participatory approach, collectors and producers were formed into groups and federated institutions to enable production and marketing. Gathered market information was shared and mountain producers became aware, for the first time, of how their value chain was constituted. Capacity building programmes were delivered to the groups. Eventually, a contractual arrangement was signed between traders and collectors, partly as a result of building competition and bringing new traders into the area, which led buyers to provide future training on collection, grading, sorting, and packaging leaves for added value.

The overall result of the pilot was that, within only a little over a year, the price increased from NRs 3 to 7 per/kg to NRs 16 per/kg for 100 tons of 'A' grade leaves under the contract. With the additional income, many families moved above the national poverty line. A fine example of how a small, but targeted, value chain intervention can address poverty within a short period of time.

Knowledge partnerships for alternative livelihoods in beekeeping

by Farooq Ahmad, Uma Partap, Min Gurung, ICIMOD

Value chain analysis for beekeeping in the Hindu Kush-Himalayas revealed a great variety of ways in which beekeeping can support the livelihoods of mountain people. Bees provide honey, wax, propolis, royal jelly, beeswax, and bee venom for both home use and sale. In addition to direct income from bee products, beekeeping generates off-farm employment opportunities in many fields including hive carpentry, honey trading, the renting and hiring of bee colonies for pollination, and bee-based micro-enterprises. Beekeeping also supports agricultural production, forestry, and the maintenance of biodiversity and natural resources through pollination services.

In light of the information gap about the above opportunities, a pilot study in all eight countries of the Hindu Kush-Himalayas gave priority to improving the skills and knowledge of stakeholders in order to strengthen their technical capacity. Awareness and training programmes for new technologies enabled local farmers in remote areas of Afghanistan, Bangladesh, India, Nepal, and Pakistan to shift from collecting indigenous honey for their own use to managing hives and producing honey for sale. Many beekeepers, as in the case of Himachal Pradesh, India, now successfully rent their honeybee colonies to apple farmers for managed pollination for USD 12 per colony and season. For Himachal Pradesh alone, with over 80,000 hectare of apple plantation in 2009, the demand for bee colonies for pollination exceeds 240,000 colonies and the current supply is less than 20,000 colonies. Hence, there is an immense scope for additional income for beekeepers.

Economies of Scale or Scope? Emphasise the Basket Approach

Mountain areas are characterised by the scale of their diversity. This great variety and the typical scattered production in mountain areas pose challenges for production in terms of volume. In the generic value chain approach, much of the discussion on improving small producers' returns is about achieving economies of scale, i.e., reducing the average cost per unit by increasing the number of units produced. While this concept has its merits for monocultures in low lands, a single focus on economies of scale in mountain areas poses risks. The promotion of individual products can lead to an increased demand pressure which, if uncontrolled, provides incentives for over-extraction and exploitation of niche products. Pressure on the fragile mountain ecosystem increases and biodiversity potentially decreases. Mono-cropping can increase human vulnerability and food insecurity when the specific value chain weakens or fails. Hence, the intensification of production for the total system, i.e., of more components of the mountain production system rather than of individual components, is a more sustainable strategy.

Economies of scope (producing two or more different products together, rather than separately, to increase cost-efficiency) can mitigate the above concerns. Economies of scope, address scattered production, high mountain diversity, fragile and weak carrying capacity, and the low investment and risk capacity of mountain communities. Mountain people are largely subsistence oriented agriculturalists, and traditional systems have focused on diversity and sustainable resource extraction. A basket approach is considerate of the close link between livelihoods and the environment in mountain areas, which calls for an integrated system of production that takes a holistic perspective rather than a focus on individual sub-sectors. By promoting a set of high value products and services produced by mountain people, the total production system can be intensified and, at the same time, the risk of degradation of natural resources or food insecurity can be reduced.

One can argue that economies of scale are more appropriate in hill areas, where the challenging mountain characteristics (inaccessibility, fragility, marginality) are less pronounced, than in more remote mountain areas. The more inaccessible, fragile, and marginal a mountain area is, the greater the challenges and risks involved in production, making economies of scope the preferred strategy.

Aiming for common facility centres in Bangladesh's Chittagong Hill Tracts

By Dyutiman Choudhary, ICIMOD

Producers of medicinal and aromatic plants in the Chittagong Hill Tracts of Bangladesh are disadvantaged in terms of access to information, technology, and markets. Despite the great diversity of MAPs available, there are few options and facilities to produce quality and value added products to meet market demands. In addition, the great variety of plants makes volume production challenging.

Community-based management of MAPs in private and common lands, as well as cultivation in farmers' fields, was initiated as a way to capture economies of scope, and through this augment income and diversify livelihoods from MAPs. Common facility centres are planned for the processing and value addition of MAPs and to provide the necessary forward and backward linkages. Producer groups will operate and manage the centres and guarantee year round processing and supply of MAPs.

It is estimated that two tons of MAPs from eight different species could be handled by the common facility centre in Rangamati district in 2011, bringing additional income to marginalised communities.

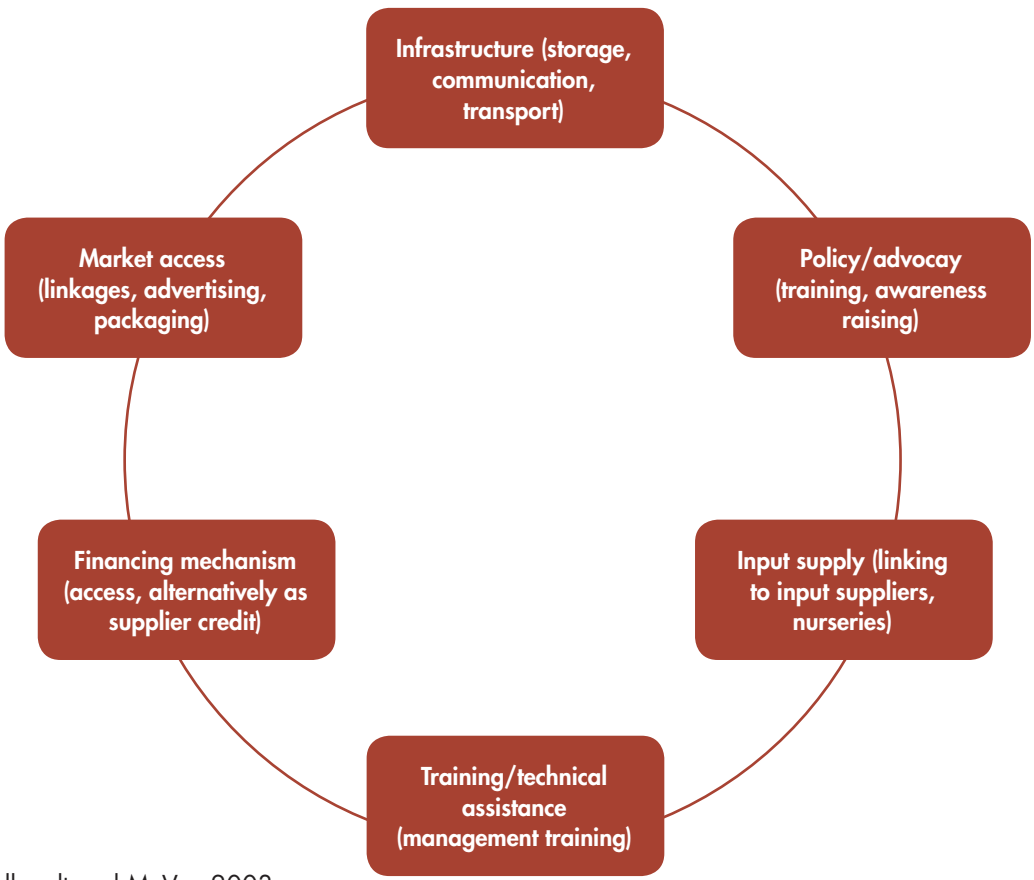
Facilitate a Fertile Business Environment and Private Sector Involvement

Efficient business development services, which are central to improving the role of mountain producers in value chains, are rare in mountain areas. As listed by the Committee of Donor Agencies for Small Enterprise Development (2001), such services include training, consultancy and advisory services, marketing assistance, information, technology development and transfer, and business linkage promotion. Those that are offered are delivered by government extension offices, but the inaccessibility and remoteness of most mountain areas poses significant challenges to the local availability and efficiency of such services. Hence, the emphasis has shifted towards encouraging the private sector to deliver business development services.

The private sector plays a pivotal role in any value chain, and for mountain value chains in particular as they are on the fringe of public services and downstream market networks. Using the value chain approach, key downstream private sector value chain actors can be involved in the rapid diagnosis of key bottlenecks within the value chain that are mutual constraints for both upstream and downstream players. This will facilitate ownership and agreement on subsequent key interventions and reforms. The value chain approach is a platform for exchange and coordination on common constraints and potential solutions. Furthermore, the private sector is crucial in the delivery of business development services in many remote and underprivileged areas. Where the public sector can only play a minor role due to lack of outreach resources, the private sector is encouraged to take initiative alone, or in the form of public-private partnerships (PPPs).

Overall, the stronger the equitable involvement of the private sector, the more sustainable growth and poverty reduction can be achieved, as it is driven by the market rather than by development incentives. Finally, the private sector benefits from stronger supply and improved quality capacity of upstream producers.

Figure 7: **Seven key business development services for upstream value chain stakeholders**



Source: Miehlbradt and McVay 2003

Attracting the private sector to develop untapped mountain potential

by Sanjeev Kumar Shrestha, Bashu Aryal, Eklabya Sharma, and Dhrupad Choudhury (Adapted from IFAD Newsletter 2008)

The untapped potential of mountain areas in the Hindu Kush-Himalayas is already attracting global agencies, which help local farmers with production by providing technology support and processing facilities. The value chain analysis of non-timber forest products and medicinal and aromatic plants in the deprived highlands of Mid-Western Nepal revealed high market potential. However, most raw material is collected from the wild, often in highly unsustainable ways. Mountain people lack both market knowledge about these products and the means to access markets.

The strategy for this pilot study was twofold. The immediate strategy was to meet potential additional demand through domestication efforts, rather than increased raw material extraction from the wild. Leasehold forestry plots made available to poor and marginalised households offered the opportunity to grow forage and forestry species. The marketing of the increased volume of (domesticated) NTFPs and MAPs required strong private sector participation in order to develop into a viable livelihood option. A public-private partnership (PPP) mode was piloted. A multi-stakeholder partnership involving leasehold forestry user groups (LFUGs) and the pharmaceutical company Darbur Nepal was facilitated.

After joint performance trials for selected species, Dabur Nepal recommended the domestication of five species and conducted capacity building for LFUG members and technical personnel from the Forest Department. Cultivation of one species, kutki (*Neo-picrorhiza scrophulariflora*), was initiated under the pilot study on 4.35 hectares of leasehold land in two districts (Jumla and Humla) involving a total of 112 members (including 43 women) belonging to 9 LFUGs. In order to ensure a steady supply of seedling material, the pilot supported polyhouse nurseries in both districts, with more than 70,000 saplings produced in Jumla alone.

With the encouraging results of the pilot study in Humla and Jumla, the Western Upland Poverty Alleviation Project (WUPAP) embarked on scaling up to two more districts. Further discussions were facilitated by the pilot study with Male International, a private sector firm dealing in MAPs and organic MAP products and serving an international clientele. Male International expressed interest in a partnership with the project, but suggested a quality assessment of raw materials covering more species. Through this tie-up, Male International will provide technical support, capacity building to project LFUGs, and market organic certified MAPs. The pilot demonstrated an institutional model that can be replicated to foster private sector participation in livelihood security initiatives.

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Facilitate Supportive Policies

Policy solutions need to be promoted that have a long-term vision that improves the stake of both mountain producers and service providers in a socioeconomic and environmental sustainable manner. A major effort is required at the policy level to support long-term and sustainable mountain value chains. External, demand-driven resource extraction leads to indiscriminate and inappropriate intensification. Unfavourable exchange terms lead to the over-extraction and over-use of mountain resources. In certain cases, this over-extraction can lead to the deterioration of the availability of locally available food or health-based products. This reduces productivity and sustainability in the long run and causes long-term damage to mountains and their communities.

Changing the system: Reforming governmental extension services and policies

by Kate Schreckenberg* (ODI), Giridhar Kinhal, and Dyutiman Choudhary (ICIMOD)

Under a previous system of collection, the Uttarakhand Forest Department opened up certain areas for bay leaf collection on a five-year rotational basis. Permits were allocated to traders, who hired local people to do the harvesting. Community members were encouraged to harvest as much as possible from each tree, which led to the cutting of whole branches and the stripping of bark. They did not grade the leaves, and received 8 to 10 rupees per kg, a price determined by traders at the main trading centres in the state.

Under the pilot project, a new system was established whereby government forestry officers train group members in sustainable harvesting methods (harvesting only small twigs with leaves rather than whole branches), and in proper drying, grading, and storing techniques. The groups have also devised norms to ensure sustainable harvesting among the wider community, such as allowing only one collector per household and only one head-load per day. Once the leaves have been dried and graded, they are packed into sacks and carried to a storage depot, where collectors receive an initial payment from the Forest Development Corporation with the balance paid once the leaves have been sold.

This more flexible policy on how the leaves are sold has also benefited the harvesters. Previously, all bay leaves were auctioned at one of three sites established by the Forest Development Corporation, but the closest of these was over 300 km away, leading to high transport costs for the producers. Under the pilot project, a once-off local auction was organised in the state for the first time. The pilot also obtained organic certification for the leaves, contributing to a higher sale price. Members of the self-help groups will also be involved in the further grading and packaging of bay leaves after the auction, and are planning to take on simple processing tasks, such as making bay leaf powder, an ingredient of the spice garam masala.

Having the support of Uttarakhand's Principal Chief Conservator of Forests has been crucial. Creating an effective partnership with the state Forest Department has also been a breakthrough, enabling readjustment from the forestry working plans to be agreed, for example, in setting up bay leaf collection areas. Organising the groups to introduce new systems for the collection and trading of the leaves has also been challenging, as has the complex process of obtaining harvesting permits. A delay in granting the permit in the project's first season meant that groups were only able to collect around 7 tons of leaves, far less than the 30 ton collection permit from the Forest Department.

The Forest Department, meanwhile, is being encouraged to consider a new rotation system to ensure a more regular supply of income to the villagers. Improving dried leaf quality and developing value-added products is also being researched. Beyond that, the Principal Chief Conservator of Forests is interested in using the experience gained from the harvesting and marketing of bay leaf as a model for other non-timber forest products in the state.

*. Kate Schreckenberg, ODI associate, is ICIMOD's liaison partner for the bay leaf value chain pilot study in India and Nepal. This account was first published in the New Agriculturist Journal, June 2009 (Schreckenberg 2009)

Supportive policy framework for social inclusion: Reserving riverbed farming for the landless

Helvetas, Nepal

Vast tracks of riverbed in the Hindu Kush-Himalayan region are dry and fallow from October to May. This land is common land under the responsibility of village authorities. The land is fertile, yet unused.

The main objective of the riverbed farming project was to develop a system through which landless and land-poor people can gain access to riverbeds during the dry season. This would enable them to cultivate horticultural products, link up with local and regional markets and, thereby, generate income. Under the project, local authorities and groups of landless and land-poor sign leasehold contracts providing access to riverbeds for horticultural activities exclusively to landless and land-poor people. Local service providers offer competent training and technical services to groups of riverbed farmers on demand.

As a result, around 2,000 landless and land-poor households are engaged in the seasonal cultivation of horticultural products in dry riverbeds. Income from the sale of products has reached 400 to 600 USD per household over the 5-month cultivation period.

Source: http://www.helvetasnepal.org.np/rbf.htm (accessed June 2009)

Take Macro-level Changes into Consideration: Globalisation and Climate Change

In recent years, new economic growth, shifting population dynamics, and climate change have taken place so intensely and rapidly that the established adaptation mechanisms of the people of the Hindu Kush-Himalayan region are losing their efficacy. The result has been an increased risk of living in poverty and further marginalisation for mountain people. In light of the rapidly changing economic, social, and environmental context, there is an urgent need to make value chains responsive.

Urban labour markets attract high numbers of male mountain migrants seeking better income opportunities. The traditional value chain functions of men are now performed by women in many mountain areas. Often this increases women's burden and decreases the chain's efficiency. Drudgery reducing, women-friendly technology and support services need to be identified for women as upstream value chain actors. Capacity-building programmes need to adjust to the changed or changing socio-cultural setting. For example, in Nepal's Far West, business development training for mountain producers traditionally targeted men; however, due to high rates of male labour migration, no men are present for the trainings and projects need to attract women and adjust their training content and level accordingly.

Modern information and communication technologies have had a revolutionary success in development. In mountain areas, the use of modern technology is a crucial asset to improve information management, market access, and financing access. For example, in the remote Himalayan areas, mountain communities are successfully using communication technologies for planning the area allocated to specific crops, storage and long-distance trading, market information, and tourism activities.

Climate change is expected to increasingly affect agro- and forest-based value chains throughout the greater Himalayas, particularly in terms of changing precipitation and lack of water as input for value chains. Access to water is becoming more and more critical, particularly in the semi-arid areas of the Hindu Kush and western Himalayas. This requires stronger water harvesting mechanisms at the community level and the selection of value chains according to water requirements for both production and processing, also in view of potential water resource conflicts with downstream water users.

Conservation of biodiversity as an adaptation strategy to climate change shows potential. Diverse crops and varieties reduce the risk of crop failure, e.g., the great variety of potatoes cultivated in the Andean mountains for centuries has enabled farmers to adapt to different biophysical parameters such as soil quality, temperature, inclination, orientation, and exposure.