

Sustainable Livelihoods in the
Kailash Sacred Landscape

Promotion of the Chyura Honey Value Chain in India



ICIMOD



FOR MOUNTAINS AND PEOPLE



The Kailash Sacred Landscape Conservation and Development Initiative (KSLCDI) includes remote portions of the Tibet Autonomous Region of China and contiguous areas of Nepal and India. The landscape is environmentally fragile and its people are highly vulnerable to climate change and environmental degradation. KSLCDI aims to improve livelihoods by carrying out activities in farm and non-farm sectors while simultaneously promoting ecosystem management and the efficient use of natural resources including water and energy. The mountains of this landscape provide a rich variety of high value, low volume products, such as non-timber forest products and medicinal and aromatic plants. However, the primary producers and collectors of these products generally receive a relatively low share of the return due to limited access to markets and credits, insufficient knowledge of the market chains, lack of processing facilities, and inadequate quality control. There is a need to ensure participation of the local communities through value chain development in order to increase their incomes.

In India, KSLCDI has identified potential value chains in selected pilot sites that have been prioritized for upgrading and promotion through product development and improved market linkages. These value chains include chyura honey, value-added products from chyura butter (soap, lip balm, etc.), off-season vegetables, kidney beans, and bamboo handicrafts. These products were selected based on their potential for pro-poor value chain development, existing and potential markets, and environmental sustainability of production and trade.



Chyura honey production in selected project sites

Six villages (Gogna, Khitoli, Bera, Sailguwani, Jamradi, and Nishni) in Pithoragarh District of Uttarakhand, India, with a strong tradition of beekeeping have been selected as pilot sites for the honey value chain. The high availability of chyura trees in these sites increases the scope for beekeeping and honey production. With 10,777 fully grown chyura trees, about 21,500–32,300 kg of high-quality honey worth INR 86–129 million (USD 139,000–208,000) can be produced each year using improved modern bee management techniques and equipment.

Indigenous honey bees in the Himalayas

Honeybee biodiversity in the Hindu Kush Himalayas includes indigenous honeybees – *Apis cerana*, *Apis dorsata*, *Apis florea* and *Apis laboriosa* – in addition to the exotic European honeybee, *Apis mellifera*, which was introduced to the region.

Apis cerana bees play an integral role in biodiversity conservation and in increasing farm productivity in the Himalayas. These indigenous honeybees have evolved in this biologically complex landscape over centuries and have developed natural defences to local and exotic enemies, like local mites. They provide important pollination services for mountain crops and flora that also enhance agricultural productivity. Unlike exotic bee species, *Apis cerana* bees can easily adapt to uncertain rainfall, low fertility, and changing climatic conditions in mountain areas. By encouraging improved beekeeping with *Apis cerana*, little development investment is required to increase the production and quality of its honey, and local communities' traditional knowledge can be put to use. This also helps ensure continued pollination services that support biodiversity conservation in mountain ecosystems, as well as agricultural crops.



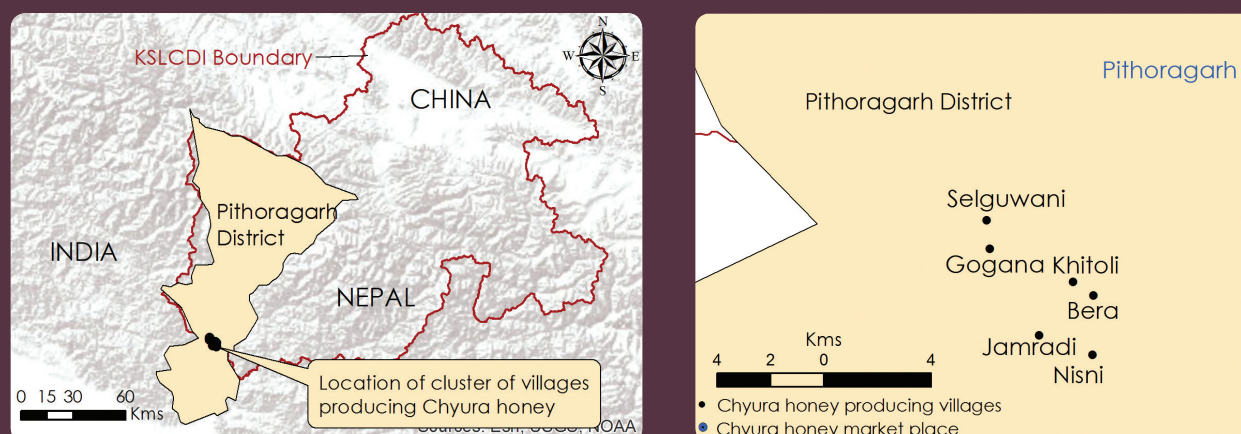
The fact that beekeeping with *Apis cerana* is a common tradition among farmers in these villages provides a good basis for product development and promotion. One quarter of the 1,010 families in the area are engaged in beekeeping.

Farmers keep bees in traditional fixed comb log and wall hives. There is a total of 1,735 traditional hives in the six villages, including 449 log hives (241 empty) and 1,286 wall hives (484 empty). There are also 22 modern movable-frame hives (15 empty). At present there are 1,017 bee colonies producing 1,792 kg of honey each year, which is primarily sold in Pithoragarh for INR 400–500 (USD 6–8) per kilogramme. On average, each household earns about INR 3,250 (USD 52) per year with three to four bee colonies that produce about 6.5 kg of honey.

Under KSLCDI, the Central Himalayan Environment Association (CHEA) – with technical support from the International Centre for Integrated Mountain



Figure 1: Map of Chyura honey pilot site



Development (ICIMOD) – is supporting farmers to harness the full potential of the chyura honey value chain. For this, CHEA is promoting a community-based beekeeping enterprise to increase honey production and marketing, resulting in improved income and better livelihoods.

Steps in the traditional chyura honey value chain in KSL-India pilot villages

- **Inputs and production:** Farmers in the pilot villages gather the required initial resources, like bee colonies, queens and beekeeping equipment, for the production of the honey using traditional techniques that have survived over centuries. This involves placing traditional log and wall hives around and inside their houses, managing the bees using traditional measures and harvesting honey using destructive techniques that often damage hive strength.
- **Processing:** Moisture content from the harvested honey must first be reduced, after which the honey is filtered and is either poured into available containers or packed in available jars, depending on the harvested quantity.
- **Marketing:** Honey production is currently more on the subsistence level, with small scale trading within the villages and in Pithoragarh.
- **Consumption:** Honey is consumed in different forms. It is either directly consumed or used in bakeries or other industries to produce food, cosmetics, or other products. Chyura honey is used as sweetener, served to guests, and used in treating coughs and colds, as well as in religious ceremonies.

Success Story of Diwan Singh Mehta

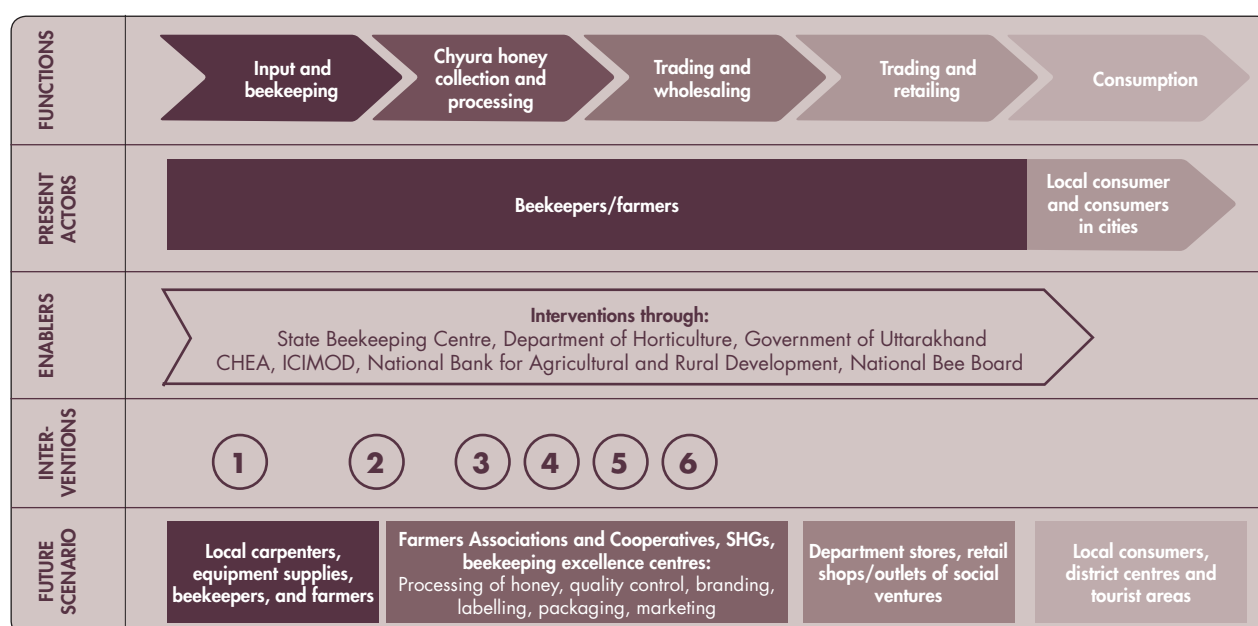
Diwan Singh Mehta is a traditional beekeeper from Gogana village in Pithoragarh District. He learned traditional beekeeping practices from his ancestors. He used to have five colonies in log hives and produced a total of 25–30 kg of honey per year, 90% of which was sold in the local market for INR 450–500 (USD 829) per kilogramme. However, harvesting honey from log hives is destructive, damaging the honeycomb. This ultimately reduces the colony strength, making it susceptible to disease and reducing production. These factors kept profits low.

As a result of the KSLCDI project interventions, Mr Mehta now has 12 modern hives. His annual production has increased to 100–120 kg per year, as the hives are more productive and he is able to harvest honey at least twice a year as extraction no longer damages the combs. Mr Mehta now sells roughly 80–100 kg of chyura honey per year in the local market at INR 550 (USD 9) per kilogramme, which has increased his annual income from selling honey to INR 37,000 (USD 600).

The introduction of new harvesting and packaging techniques have resulted in higher selling prices. Mr Mehta said that the colonies are healthier and colony division and multiplication is now easier, enabling him to make new colonies at a low cost. This has revived the traditional practice of keeping indigenous bees. There is huge demand in the local community for more modern hives.



Value addition steps in the chyura honey value chain in KSLCDI



Honey value chain interventions and upgrading strategies

1	Capacity building and provision of modern technology beehives: Farmers are being trained on modern bee management techniques and hive carpentry and have been provided with high-tech equipment to enhance the quality of honey production. Trainings and exposure visits are being conducted on hygienic methods of honey extraction, bottling and packaging, branding and organic certification. Focus has been given to include women and the poor in value chain development by encouraging their participation in joint liability groups and building their capacities through training, exposure visits, and provision of material and equipment. Farmers will also be linked to the National Bee Board for further training.
2	Mobilization of beekeepers into self help groups, joint liability groups, and cooperatives: Farmers have been organized into self help groups and joint liability groups to strengthen farmer organizations and their activities. These groups are now being federated into the cooperative Pancheswar Ghati Swayatta Sahkarita Self Reliant Group. The cooperative is currently being formally registered. Once the cooperative is in place, business plans for honey joint liability groups and self help groups will be prepared and formalized through participatory processes.
3	Facilitating access to information: Farmers have been linked to information service providers via SMS platforms where they can get information on markets, prices, quality, government subsidy programmes, and other services related to beekeeping, as well as agriculture and weather. Initial steps have been taken to establish beekeeping excellence centres for demonstration and extension in the six pilot villages. These centres will be run by progressive beekeepers.
4	Facilitating market access: Market surveys are being undertaken to assess market demand and requirements in terms of quality and quantity. Potential market outlets are being contacted to ensure steady marketing of honey, as there is a projected increase in the quantity of honey produced as a result of the project intervention. Business agreements will be organized with identified traders.
5	Facilitating access to finance: Farmers and self help groups require financial resources to effectively carry out chyura honey value chain activities. The project is in the process of linking farmers and self help groups to banks and other sources of financial resources. The project is currently providing equipment to farmers at a subsidized rate.
6	Development and promotion of new products and brand development: With improved technology, value addition and honey processing will be done as per the market requirements. A universal brand will be developed for effective product promotion and marketing. The process of exploring organic product certification in the second phase of project implementation has been initiated.



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