

# Improving the Cash Income of Poor Mountain Households through *Apis cerana* Beekeeping: An experience from Nepal

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The findings of the Nepal living standard survey (NLSS) in 2003/2004 indicate that Nepal's poverty headcount declined from 42% to 31% in the years 1995/1996. Urban poverty has declined more than rural poverty. Despite the overall decline in rural poverty, the level of inequality has widened, with the incidence of poverty becoming greater among lower caste people and ethnic minorities in rural areas. Poverty among these groups has worsened because they possess meagre assets to earn income and are not well organised to access resources for their own development. Most of the services and inputs provided by different agencies do not reach these people. They are neither in a position to defend their interests nor are they able to gain benefits from external interventions.

However, a large number of the poor whose incomes have increased are beginning to rely on other income sources besides land and agriculture. Many households are beginning to look for new opportunities to diversify sources of income. One of these new sources of livelihood is beekeeping. ICIMOD has conducted on farm action research on *Apis cerana* honeybees for over a decade and has concluded that bees can be a source of income to mountain households that have limited options and opportunities outside of agriculture. This is based on field studies carried out in three places in Nepal namely, Jumla, Kaski, and Dadeldhura districts.

ICIMOD is working with partner organisations, Alital Multipurpose cooperative in Dadeldhura, Surya Social Service Society in Jumla, and Annapurna Beekeeping and Environment Promotion Centre in Kaski, to provide

support to beekeepers. The participating farmers are poor and have limited options and opportunities to earn cash incomes, especially those who are keeping *Apis cerana* bees. Since income from agriculture is low, these farmers also work in off-farm activities to supplement their incomes. To some households, remittances are an important income source.

Training activities have been organised by the project and partners to strengthen the capacities of the project beneficiaries in beekeeping. Training courses were provided on bee management in general, and value addition and diversification of bee products in particular, targeting both men and women beekeepers. Similarly, a number of different training activities were implemented to facilitate the process of diversifying and enhancing the cash income options of mountain households.



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Nepali women trainees prepare beeswax skin creams during training.

**Table: Cash income from selling honey and bee colonies at project sites in Nepal (before and after training)**

Description	Kaski		Jumla		Dadeldhura		Total	
	Before	After	Before	After	Before	After	Before	After
Average number of bee colonies/hh	2.8	6.8	4.8	6.6	3.9	6.9	4.1	6.8
Average honey yield kg/hh	6.8	10.2	12.4	22.4	19.6	51.6	15.1	34.6
Income from beekeeping NRs/hh/year	816	1224	1488	2688	2352	6192	1812	4152 (US\$ 58)

NRs = Nepali rupees, the approximate rate of exchange in 2005 was US\$ 1 = NRs 71  
hh = household

### Diversified beekeeping

After the project provided facilitative support, beekeepers at the three project sites acquired different interests and skills and adopted different technologies. Beekeepers at the Kaski site adopted frame hive technology, whereas those in Jumla have been more successful with swarm catching and transferring bees into in log or top bar hives. Jumla beekeepers are succeeding in value added bee products such as candle and beeswax skin creams. Similarly, beekeepers from Dadeldhura are succeeding in transferring bee colonies from traditional hives to frame hives and in earning cash income from selling *Apis cerana* honey.

Farmers at the project sites are gradually realising the economic importance of *Apis cerana*. Beekeepers from Kaski have become more successful in selling bee colonies, queens, and frame hives. A successful beekeeper in Kaski has been able to earn NRs. 55,000 (US\$775) in a year from selling bee colonies and queens. In Dadeldhura, farmers are earning cash income by selling honey and beeswax. The demand for *Apis cerana* honey is increasing in Dadeldhura

because of its unique flavour, pleasant taste, and organic nature. One beekeeper was able to sell NRs. 40,000 (US\$563) worth of honey in one season with very little cash investment. Beekeepers in Jumla have been successful in making candles and skin creams from *Apis cerana* beeswax for their own use and generating cash income

by selling in both the local and Kathmandu markets. Among the beekeepers in Alital, Dadeldhura, average income from *Apis cerana* beekeeping was approximately NRs 4,152 (US\$58), more than one-third of the total annual cash income from farm activities. The impact on honey yield was more visible in Dadeldhura than at other project sites, whereas in Kaski, households were increasing the colony numbers for sale. Some results on increase in bee colonies, honey yield, and income from beekeeping before and after the project, based on a survey carried out at the project sites are provided in the Table.

While the choice of beekeeping technologies varies across geographical areas because of differences in the biophysical and socioeconomic conditions of beekeepers, ICIMOD's experience suggests that beekeeping can be a useful additional source of income for poor farmers. Since the beekeeping technologies and practices are low cost, poor farmers can afford them. Beekeeping does not require much time and is an ideal income generating activity for women. The project successes can be scaled up to other parts of the Himalayan region where *Apis cerana* bees are abundant.