

Promoting Secure and Sustainable Livelihoods through Beekeeping



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Traditional backyard beekeeping with log hives in Nepal

Beekeeping has holistic benefits that relate to health (being used as a medicinal product and as food), the economy (directly through sales of honey and other bee products, and indirectly through increased productivity of pollinated crops, as well as bee enterprise activities), employment (in honey production and pollination services), and the environment (by ensuring pollination of wild species). Beekeeping can contribute to securing sustainable livelihoods by transforming vulnerabilities into security, an idea incorporated in ICIMOD's Strategic Plan 2003-2007. It can be carried out by small farmers, and is particularly suitable for under-privileged,

landless, and low-income groups as well as women as it requires minimal start up investment and generally yields profits within the first year of operation. Some of the different roles played by beekeeping in rural development are described in more detail and discussed in the following pages.

***Apis mellifera* and indigenous Himalayan bees**

Beekeeping with *Apis mellifera* has become an important part of many beekeeping initiatives and programmes from North to South. These initiatives facilitate technology transfer and ensure the constant supply of honey to the world markets. However, as a part of this endeavour, *Apis mellifera* has been introduced and promoted in areas beyond its original natural nesting habitat. In the Himalayan region there are four indigenous honeybee species, one of which (*Apis cerana*) can be kept in hives. These bees have special advantages for farmers at the higher altitudes where they are found naturally. However, the advantages of honeybee biodiversity remained unrecognised for many years, and little was done to conserve the indigenous honeybee resources. As a result of lack of information and ignorance, efforts including beekeeping as a component in rural development were sometimes counterproductive, focusing on a 'Northern' blueprint rather than local wisdom or indigenous knowledge. This is now changing, but while examining the information below, the reader should remember that the benefits of beekeeping depend on ensuring that the approach is locally appropriate – and in some areas this will mean that beekeeping should focus on indigenous species and not the ubiquitous *Apis mellifera*.

Forest bees in Mirpur, North Pakistan – an example of problems with exotic bees

Mirpur is a traditional nesting area for the giant honeybee species, *Apis dorsata*. In the two annual honey harvesting seasons, local farmers used to collect more than five tonnes of honey per year. The Department of Agriculture introduced *Apis mellifera* beekeeping in the 1980s and now more than 7,000 bee colonies visit the area in autumn and spring to produce honey from *Zizyphus jujuba*, *Zizyphus sativus*, *Adhatoda vasica*, *Acacia Arabica*, and *Robinia pseudoacacia* flowers. Beekeepers produce more than seventy tonnes of honey in this way.

The local farmers, who are not beekeepers but honey hunters, haven't welcomed this intervention.

They believe that the managed beekeeping has taken away their honey and that it is the reason why the numbers of *Apis dorsata* nests are declining. Biologists and entomologists have a different view. They explain that the indigenous bee species migrate from north to south and back following the nectar flow and seasonal changes. Changes in the agricultural landscape and use of pesticides have influenced the regular migratory pattern, reducing both the number of nests and the eco-services to agriculture and the pristine landscape. However, introduction of managed bees may also reduce the amount of nectar available to the wild bees. And conservation apiculturists do believe that the introduction of *Apis mellifera* has had a negative impact on the indigenous species by providing space for multiplication of the mite *Tropilaelaps clarae*, which now breeds permanently in *Apis mellifera* colonies, and weakening of *Apis dorsata*'s coping mechanism against it. It seems that the decline in number of *Apis dorsata* nests in the area is at least in part due to the inappropriate introduction of exotic honeybees (Ahmad et al. 2002) as well as to changes in agricultural practices.



Apis dorsata nest in the forest

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