

Conclusions and Recommendations

1) Since apiculture has positive ecological consequences, and offers specific advantages for the development of sustainable agriculture, off-farm income and food-generating activities for mountain communities living at, or below, subsistence level, there is a need to convince the Governments of the Hindu Kush-Himalayan region, as well as international organizations, of its importance.

2) Introduction of the European honeybee, *Apis mellifera*, in certain parts of the Hindu Kush-Himalayan region, may lead to the extinction of the native hive bee, *Apis cerana*, which offers great potential for the development of apiculture in this region.

Keeping this in mind, the Expert Meeting recognizes the need to establish an International Research and Training Centre, with substantial international funding, in Nepal. The major objectives of this Centre should be:

i) to generate and deliver improved beekeeping management technology, through research and training, primarily on the Asiatic species of honeybee,

ii) to create a cadre of apicultural experts by providing training in both the practical and scientific aspects of apiculture,

iii) to encourage the transfer and sharing of technology and information, and

iv) to assist countries of the Hindu Kush-Himalayan region, especially Nepal, Bhutan, and Bangladesh to establish national programmes for apiculture.

In this respect, participants of this Expert Meeting appreciate and welcome the interest of HMG/Nepal in hosting this Centre in Nepal.

To ensure prompt and effective action for establishing such an International Apicultural Research and Training Centre in Nepal, a regional project on the Himalayan sub-species of honeybee, *Apis cerana*, and its genetic improvement, along with a scientific "train the trainer" component, should be initiated by ICIMOD in collaboration with HMG/Nepal.

Since the United Nations' Food and Agriculture Organisation (FAO) and the United States' Department of Agriculture (USDA) have expressed interest in the promotion of beekeeping, through Asiatic honeybee species, they should be approached as the appropriate funding agencies.

3) The value of honeybees as pollinators of agricultural crops is greater than their value as honey and beeswax producers. A large number of mountain crops are either dependent upon, or benefited by, bee pollination. Apiculture, therefore, should be made an integral part of agricultural and horticultural crop management technology.

4) Indiscriminate use of biocides in the developing countries of the Hindu Kush-Himalayan region is severely affecting the useful cross-pollination activities of honeybees. In order to minimize bee losses from the harmful effect of pesticides, each Government in the region should formulate and enact legislation to regulate the use of biocides.

5) Rich and diverse bee flora is constantly declining throughout the Hindu Kush-Himalayan region. This is happening due to large-scale deforestation and changing agricultural practices. This warrants greater attention on the part of the concerned national and international agencies involved in environmental management programmes.

Knowledge about the bee flora of the Hindu Kush-Himalayan region is not yet comprehensive. An international agency such as ICIMOD should undertake such studies in order to fill the lacunae.

6) In certain parts of the Hindu Kush-Himalayan region, there is harmful exploitation of native wild bees through honey hunting. As a result of this practice, the population of wild bees is declining at an alarming rate, with serious ecological consequences. In such areas, efforts should be made to introduce modern hive beekeeping as a substitute.

7) In order to initiate action to develop beekeeping as an income-generating activity for different target groups in the mountain areas of the Hindu Kush-Himalayan region, and to project the importance of this enterprise, there is a need for systematic study of the economics of the industry. There is also a need to assess the marketing potentials of different hive products in the Hindu Kush-Himalayan region. The Expert Meeting welcomed the suggestion of the Chinese participants that an international workshop on, "Hive Products: Production Technology and Marketing Potentials", be organized in Beijing and that an international aid agency, such as IDRC, be approached for funding.

8) At present, there is no practical training manual on beekeeping with the native hive bee, *Apis cerana*. Since the technology of western bee management is not appropriate for this region, because of different ecological and socioeconomic conditions, ICIMOD should be requested to take necessary steps for preparing such a manual.

9) Participants of this Expert Meeting appreciate and thank ICIMOD, particularly the Director, Dr. Colin Rosser, and the Professional and Administrative staff members of ICIMOD for their part in making this Expert Meeting successful.

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