Agriculture and Apiculture in Afghanistan

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Presentation

The Islamic Republic of Afghanistan, with a population of 30 million inhabitants and a surface area of 647,497 km² (249,999 square miles), is bordered by Iran to the West, Pakistan to the South and East, and by Turkmenistan, Uzbekistan and Tajikistan to the North. A narrow strip, the Vakhan (Wakhan), extends in the north-east beside Pakistan to the Xinjiang Uygur Autonomous Region of China. The capital and largest city is Kabul.

The greater part of Afghanistan is steeply sloped with mountains, whose ranges fan out across the centre of the country from the towering Hindu Kush (reaching a height of more than 7,315 m (24,000 ft). There are, however, within these mountain ranges and on their edges, many fertile valleys and plains. In the South, particularly in the south-west, are great stretches of desert, including the regions of Seistan and Registan. To the North, between the central mountain chains (notably the Selseleh-ye Kuh-e Baba, or Koh-i-Baba, and the Paropamisus) and the Amu Darya (Oxus) River, which marks part of the northern boundary, are the highlands of Badakhshan, Afghan Turkistan, the Amu Darya plain, and the rich valley of Herat on the Hari Rud (Arius) River in the north-west corner of the country (the heart of ancient Ariana). The regions thus vary widely, although most of the land is dry.

For the most part, the rivers are not navigable. The longest is the Helmand, which flows in a south-west direction from the Hindu Kush to the Iranian border. Its water has been used for irrigation for centuries, as have the waters of the Hari Rud and the Amu Darya. The Kabul River, on which the capital city stands, is particularly famous because it leads to the Khyber Pass and thus South to Pakistan.

Although enforced warfare in Afghanistan during the late 20th Century caused substantial population displacement, with millions of refugees fleeing into Pakistan and Iran, regional ethnicity remains substantially the same as it was before the unrest.

Map of Afghanistan

Economy

Agriculture is the main occupation, although less than 10% of the land is cultivated; a large percentage of the arable land was damaged by warfare during the 1980s and 1990s. It consists largely of

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Reza Shahrouzi teaching modern beekeeping to Afghan beekeepers

subsistence crops, including wheat and other grains, fruit and nuts. The opium poppy, grown mainly for the international illegal drug trade, is the most important cash crop, and the country is the world's largest producer of opium. Grazing is also of great importance to the economy. Fat-tailed sheep are a staple of Afghan life, supplying skins and wool for clothing, and meat and fats for food.

Some small-scale manufacturers produce cotton and other fabrics, furniture, shoes, fertiliser and processed agricultural goods. Extremely high levels of unemployment, about 40% in 2005, have resulted from the general collapse of Afghanistan's industries.

Opium, fruit and nuts, hand-woven carpets, wool, cotton, lambskins (karakul) and gemstones are the main exports; capital goods, foodstuffs, textiles and other manufactured goods, and petroleum products are the main imports. As a result of civil war, exports have dwindled to a minimum, except for the illegal trade in opium and hashish. The country has also become an important producer of heroin, which is derived from opium. Afghanistan is heavily dependent on international assistance. Its main trading partners are Pakistan, the United States, and India.

Roads and communications throughout the country are poor, although existing roads have undergone reconstruction since the end of Taliban rule. Pack animals are an important means of transport in the interior. A road and tunnel under the Salang Pass, built in 1964 by the Russians, provides a short, all-weather route between North and South Afghanistan.

Reza Shahrouzi teaching the new technology to Afghan beekeepers

Apiculture

Honey bee species indigenous to Afghanistan include *Apis cerana* and *A. dorsata. Apis florea* has been recorded in the past but perhaps needs re-identification. *Apis mellifera*, the European honey bee, was introduced into Afghanistan by the FAO in 1965.

The author saw 150 colonies of *A. mellifera* in Afghanistan; they were small, weak, docile and easy to handle. In Pakistan and northern India (Haryana, Punjab) beekeeping with European honey bees is practised on a large scale. In these areas, where bees were not kept formerly, *A. mellifera* is proving successful. These are dry plains with large-scale, irrigated agriculture: monocultures of sunflower and *Brassica* provide excellent forage sources for bees.

Beekeepers practise migratory beekeeping, moving stocks to new areas as plants come into flower. In areas bordering the Hindu Kush and Himalayas, the diversity of habitats means that flowering plants

are available throughout the year. This is an exceptionally good region for beekeeping and can generate honey harvests of well above 20 to 30 kg per colony per year. Migratory beekeeping requires transport, roads, skilled staff and equipment suitable for the continual movement of bee colonies.

With suitable management methods, *A. mellifera* delivers higher yields of honey and beeswax than *A. cerana*. However, the input costs will also be greater. This is because *A. mellifera* is an exotic species from a temperate climate, and requires more resources (time, treatment against endemic diseases, protection against predators). It is already well known from other countries in Asia that beekeeping with *A. mellifera* can be more economic than with *A. cerana*, when practised on a large scale. However, if the aim of a project is to assist the landless or poor farmers, the promotion of *A. mellifera* may be inappropriate. Afghan beekeepers remain largely unaware of diseases and parasitic mites, their recognition and control, and this lack of knowledge will cause further disease spread. Since beekeeping methods and technology are brought from Pakistan, this gives rise to dependence on Pakistan for the provision of materials; in particular, the beeswax foundation sheets needed for beekeeping with frame hives

There have been few initiatives promoting a sustainable method of beekeeping that is appropriate for the rural poor. Various non-governmental organisations (NGOs) are now proposing projects involving beekeeping but technical support will be essential. The NGO *Terre des Hommes* imported 150 colonies for Rustaq in Afghanistan from Tajikistan between 2008 and 2009. Rustaq now has 1,000 colonies with 91 beekeepers, 22 of which are women, and an active cooperative. The beekeepers were trained by the author from 2008 to 2010, a programme which was also organised by *Terre des Hommes*.

Traditional hives and wall hives can yield approximately 6 to 10 kg of honey per year.

These yields are low in comparison to potential yields from frame hives. However, many poor beekeepers only harvest the same amounts of honey from their frame hives as they could have harvested from their log or wall hives. A beekeeper could obtain many traditional hives for the cost of one box hive with frames. However, when projects provide boxes free of charge, such economic considerations are often missed.

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Afghan women learning modern beekeeping

Conclusion

Afghanistan has some 150,000 to 200,000 honey bee colonies, according to Sannie Satti, Sayed Khan Panjshri, Director of the Cooperative and R. Shahrouzi, 2010. Modern frame hives can yield approximately 10 to 40 kg of honey per year. This can make a big economic difference to an Afghan family. In 2004, the author published an article about a ten-year plan to create 10,000 jobs in beekeeping by eventually establishing 1,000,000 bee colonies. In addition, the author wrote a book about beekeeping guidelines in the Dari language and translated several CDs produced by l'Office pour l'Information et la Documentation en Apiculture/ The Information and Documentation Service for Apiculture, into Dari for Afghan beekeepers. It is the fervent hope of the author that, by 2015, Afghanistan will have reached its goal of 1,000,000 hives and 10,000 beekeepers. Since 2005, when France opened a bureau in Kabul to aid the development of agriculture in Afghanistan, Franco-Afghan collaboration in apiculture has been considerable, thanks, in no small part, to the work of M. Marc Jean of the World Bank. Thanks are also due to the many NGOs working on rural development in Afghanistan, on such projects as arboriculture, cattle and sheep breeding, greenhouse production, etc. For example, in 2010, some 5,000,000 euros were invested in arboriculture alone. The aim is to create 30,000 jobs in the agricultural sector over ten years. These are great efforts but, in truth, much is needed to ensure an optimistic future for agriculture in Afghanistan.

Afghan women learning modern beekeeping

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