BEEKEEPING IN PAPUA NEW GUINEA

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INTRODUCTION

A great deal of the honey sold in Papua New Guinea at the moment is imported from Australia and New Zealand. However, there is a good chance that very soon most honey in our stores will be from the Highlands of Papua New Guinea.

Commercial beekeeping has been going on in this country only since 1980. Since parts of the Highlands have proved to be ideal for honey production, the industry has grown very fast. Today, almost enough honey is being produced there to meet the country's present needs. This article describes how the industry was set up, and how it operates.

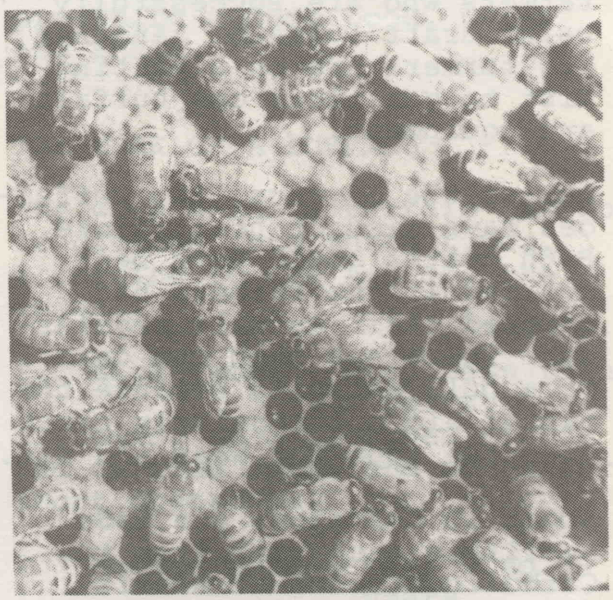
BACKGROUND

In 1975, the Department of Pri-Primary Industry, through the initiative of John Swincer, Manager of the Apiary Research Centre, arranged for studies to be carried out in the Highlands, to find out whether the area would be suitable for beekeeping on a large scale. The feasibility studies were headed by Vince Cook, under the New Zealand Aid programme. The Eastern Highlands and Western Highlands Provinces were chosen as the best areas because colonies of feral (wild) bees were already living there.

It was decided to make Goroka the main centre for beekeeping in the Highlands, since Goroka has very good communication systems with both the coast and other parts of the Highlands.

In October 1976, D.P.I. set up the first commercial trial at Goroka. It consisted of 500 hives and was run by Gavin McKenzie, a beekeeping expert from New Zealand. The bees used were *Apis mellifera*, the Italian Honeybee. This species is the one used in most temperate countries for honey production.

Since 1976, the Apiary Research Centre in Goroka has carried out production trials at many sites in the Highlands. Sites for



Bees (Apis mellifera) *on a honeycomb*

apiaries (a collection of bee-hives) have to be chosen very carefully. They must be safe from pests and predators. They should be sheltered so that the bees are not disturbed too much. The sites should be well away from places where people live, so that the bees are not a nuisance. At the same time, access to the site should be easy.

The trials at different sites showed that the best areas for honey production are around Goroka and Kainantu, and in the Bena Valley. Hives in open grassland sites do better than those in the bush. Altitudes of between 1200 m and 1800 m are the most suitable.

As well as the main centre at Goroka, D.P.I. also set up experimental projects at Mt Hagen and Moitaka. The lowlands honey experimental project at Moitaka has already been stopped, since the quality of honey produced was not nearly as good as that of the Highlands.

ADVANTAGES OF THE HIGHLANDS FOR BEEKEEPING

Compared with other countries where honey is produced, the Highlands of Papua New Guinea are particularly good for beekeeping.

The main advantage is the steady climate, with no cold season. The bees produce honey for about 5 months in the year. There are two periods of production - April to August, and October to November. There is no production in the wet season. However, the bees are self-sufficient for the whole year (that is, they never need extra food). The average output per hive in Papua New Guinea is about 50 kg per year.

For comparison, in New Zealand, honey is produced for only 2 months in every year, and in the winter, beekeepers have to provide sugar for the bees to feed on. The average output per hive is only 35 kg per year.

Papua New Guinea is very lucky because it is free from American and European foul brood diseases. Foul brood disease is a big problem in many other countries. It can be spread from honey taken from infected colonies of bees. Therefore it is now forbidden to import honey into Papua New Guinea from most countries to minimise the risk.

TRAINING PROGRAMME FOR BEE-KEEPERS

It is hoped that by the end of 1981 all Papua New Guinea's honey will be produced in the country by commercial beekeepers. In 1979 the first people were chosen to be trained in the business of beekeeping. Most of these people were already working as labourers at the Bee Research Centre. They had all shown a special interest in beekeeping.

The first part of the programme consists of at least 12 months of intensive training at the Bee Research Centre at Goroka. Following this training, D.P.I. lends the beekeeper 100 hives (now worth K50 each), and he manages these for one year. The 100 hives are divided into apiaries of 25-30 hives each and are kept at sites previously tested by D.P.I.

At the end of the year, if the beekeeper has managed his hives well, and made a good profit, then he is recommended for a Development Bank loan. The money is used to pay back D.P.I. for the 100 hives. The profit

from the first year is used as a deposit on the loan, and the rest of the money is paid off over the next five years.

During the five years, the beekeeper's budgets and accounts are checked carefully by D.P.I. This is to make sure that there is no overspending, that the loan is paid back regularly, and that any profit is used sensibly (for example, to buy more hives, or to provide transport).

The whole training programme lasts for 7 years. By the end of this time, the beekeeper should be running his business by himself. At present, six beekeepers are taking part in this programme. Between them, they have 700 hives. Some of the beekeepers are increasing the number of hives they manage. They are being encouraged to find their own new sites for apiaries.

THE ROLE OF D.P.I.

D.P.I. keeps a core of about 700 hives in various projects. The D.P.I. beekeeping section is staffed by: a New Zealand Aid Specialist O.I.C. Station Manager in charge of funds and

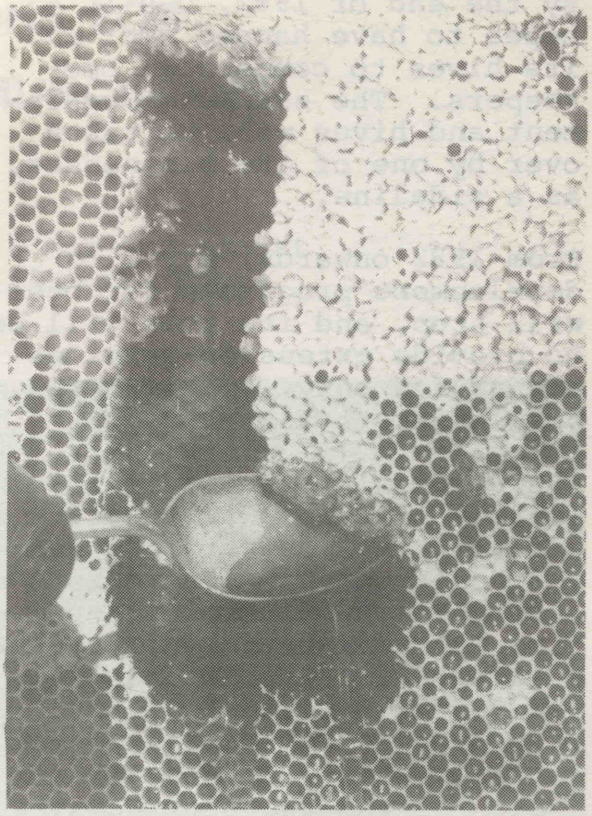
The R.D.O. at Goroka, with one of the trainee beekeepers, demonstrating how to handle the hive. Note the protective clothing worn by the trainee.

administration; a Rural Development Officer who is the understudy to the O.I.C. and is in control of Goroka Station; three Rural Development Technicians (responsible for day-to day training); and two trainee R.D.T.'s. Also there are eight labourers who will be trained as commercial beekeepers.

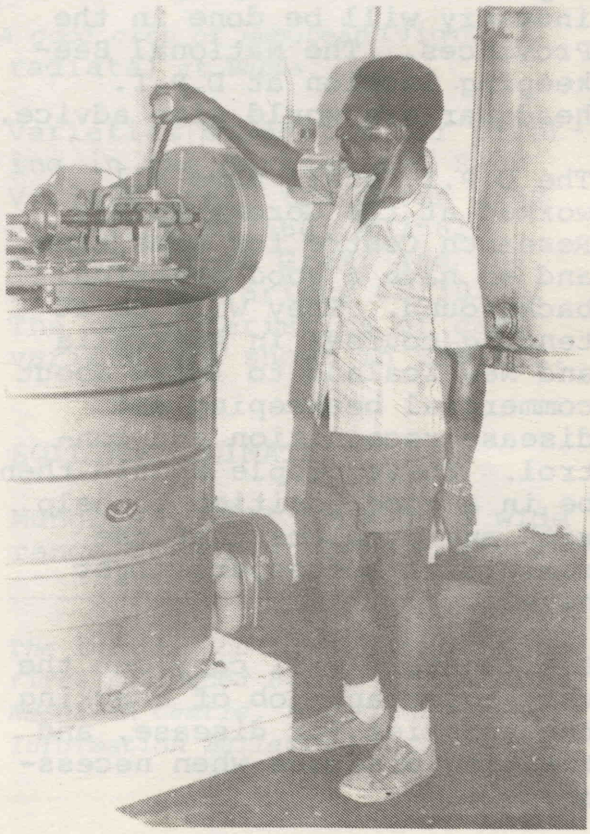
All the equipment which people need to keep bees is at present supplied by D.P.I., Goroka, or a private supplier (P.N.G. Beekeeping Supplies, P.O. Box 222, Goroka).

Ian Mopafi, the R.D.O., addressing visitors at a Field Day at the Apiary Research Centre in Goroka

(Right)
The right hand side of the honeycomb is full of honey, and ready for extraction



Uncapping the honeycomb, using an electric knife



(Right)
The machine for extracting honey from the comb

By the end of 1982, D.P.I. hopes to have handed over all its hives to commercial beekeepers. The supply of equipment and hives will be taken over by one of the businesses, as a sideline.

From 1982 onwards, D.P.I.'s development programme for bees will stop, and its role will be to provide extension services and advice only. The staff will consist of:

- A National Coordinator for beekeeping who will coordinate extension services and disease control inspections for all the provinces involved in bee keeping (at present the Eastern Highland and Western Highlands only).

- A Provincial Coordinator for each of the two provinces.

- A Rural Development Officer who will be the disease control inspector.

Any further development in the industry will be done in the Provinces. The National Beekeeping Section at D.P.I. headquarters would give advice.

The D.P.I. staff have all worked at the Goroka Apiary Research Centre for some time, and so have a good practical background. They will be attending courses in Australia and New Zealand to learn about commercial beekeeping and disease recognition and control. These people should then be in a good position to help with any problems that the commercial beekeepers might have.

D.P.I. staff will cary out the very important job of checking the apiaries for disease, and treating diseases when necessary.

PACKING AND MARKETING

At Goroka, there is a honey extracting and bottling plant. Beekeepers can take their honeycombs along, the combs are uncapped by hand using a knife, and the honey extracted by machine. The honey is packed into small jars ready for marketing and the combs are then returned to the hives.

It is hoped that by mid-1982, this plant will be run as a cooperative. All the commercial beekeepers in the area will help to run the factory. They may employ a factory manager and two or three labourers.

Honey for distribution to other parts of Papua New Guinea can be sold direct to the big retailers in Lae. These companies have their own transport for sending goods to the rest of the country.

CONCLUSION

The Highlands Honey operation at Goroka has been very successful since it was set up in 1976. Today there are 1400 hives. Half are owned by D.P.I., and the other half by six commercial beekeepers. The total honey production in 1980 was about 45 tonnes, which was almost enough to meet the demand in Papua New Guinea.

By the end of 1982 there should be nine or ten commercial beekeepers handling all the hives. It is very likely that they will produce a surplus of honey, so Papua New Guinea will not need to import any more, and may even start exporting.

Photographs on p. 64 by G. MacKenzie.
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