Development Strategy of Small-scale Beekeeping
(Case Study in Kampong Nyalenghor, District Pagerageung, Tasikmalaya Regency)

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Abstract

Bees are one kind of insects which produce honey, royal jelly and wax, and which have been well known by the human. In honey bee reservation, things need to be prepared are location and the bee colony. One of many farms which need more information about honey bee apiary reservation is Sri Buana Group which is located at Tasikmalaya District, West Java. Until the present they do not really have fixed consumers. The potential of honey bee at Kampong Nyalenghor, in fact, still hasn't been exposed. It can be proved by the relatively low production technology and marketing system. It's only a supporting business for them. Farming and gardening are their main jobs. The apiary group at Kampong Nyalenghor is coordinated under the Forestry Department. The Forestry Department consider that the area have great potential for honey bee reservation geographically, because the area located at the highest altitude in the area of Pagerageung Village. A problem that usually appears and threats the farmers, for example, is the lack of stup (beehive). It was caused by the farmer who does not have money to buy the hive. The problems can be solved if the government supplies more hive. The group in Kampong Nyalenghor still needs training and guidance so they can increase their income.

Key words: apiary, development strategy, honey bee

Introduction

Bees, which have been known to human, are insects producing honey, royal jelly and wax. Bees was classified into the genus of *Apis* with many species that can be found in Indonesia, for example, *Apis cerana*, *A. dorsata*, *A. mellifera* and *A. florea*. In honey beekeeping things that need to be prepared are the location of cultivation, colonies of bees and farmer's skill. Indonesia is very suitable for beekeeping, because it has rich of flowering plants, so that honey can be commercialized throughout the year. But in reality there are many honey beekeeper (apiarist) have not received

permission to operate their enterprises from the local government livestock agency. One of them is Sri Buana apiary which is located in Tasikmalaya regency. Until recently the farm has not been getting regular customer to sale its products. This can be seen that they do not know to whom they will sell their products. Therefore, Sri Buana apiary needs an appropriate business development strategy so the farm can be more developed in the future with all its potential. The potential development of beekeeping in an area was determined by environmental conditions, especially the availability of bee forages in the area. This study aimed to find out the potential development of honey bees which refers to the important aspects such as technical aspects of bee production and socio-economic aspects, and identifies the main factors of internal environment and external factors that had influence in Sri Buana Apiary development.

Methods

The study was conducted in Sri Buana honey bee farm which was located in Kampong Nyalenghor, Nanggewer Village District Pagerageung Tasikmalaya Regency. The study was conducted for three weeks, from August 1 to August 22, 2009. Primary data collected through observation and direct interviews with honey beekeepers group chairman and members. Interview was conducted using a list of questions (questionnaire) that has been prepared. Data were analysed using descriptive SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis.

Results and Discussion

Strengths

Kampong Nyalenghor area is very potential for honey beekeeping development, because geographically Kampong Nyalenghor is in the highest plateau (± 25^0) among regions in Pagerageung Sub-District. The temperature is suitable for honey beekeeping in the highlands (Central Scouting Apiary, 2006; Haddad and Fuchs, 2004). There were many species of plants that can be used as honey bee forages in Nyalenghor. Plants that serve as potential feeds for honey bees consist of forest trees, fruit trees and plantations or industrial crops (Huang and Pett, 2010). Some plants have been known as sources of bee forages can be found in Kampong Nyalenghor can be seen in Table 1.

Weaknesses

The beekeeper only kept *Apis cerana*, because it was considered better suited to environmental conditions in Kampong Nyalenghor area. *A. mellifera* has also been maintained, but its honey did not proceed. This is because the honey was dilute. In addition, the price of *A. cerana* colony was cheaper and affordable to the beekeepers.

Murtidjo (1991) also revealed that, although productivity of *A. cerana* is low, but this business is good to be developed to increase the welfare of the community, because it is easily obtained and relatively needs low production cost.

Table 1. Some Types of Forage Crops as a Source of Bees Feed

No.	Name	The content of nectar and pollen
I.	Forestry plants	
1.	*Kaliandra* (*Calliandra callothyrsus*)	N
2.	Sugar palm (*Arenga pinnata*)	N, P
3.	*Petai cina /lamtoro* (*Leucaena glauca*)	P
II.	Fruits	
1.	*Klengkeng* (*Euphorbia longan*)	N, P
2.	*Rambutan* (*Nephelium lappaceum)*	N, P
3.	Mango (*Mangifera indica*)	N, P
4.	*Durian* (*Durio zibethinus*)	N, P
5.	Rose water (*Eugenia spp*)	N, P
6.	Avocado	N, P
7.	Citrus (*Citrus spp*)	N, P
III.	Plantation Crops	
1.	Kapok (*Ceiba petandra*)	N, P
2.	Coconut (*Coccos nucifera*)	P

Source: Scout Apiary Centre, 2006.

The sensibility of *A. mellifera* to the predators and the parasites implies to proceed to attentive and regular monitoring and, if necessary, to intervene to limit the incidence of the parasitism and the predation. Beside the chemical treatments often necessary to slow down the parasitic developments, it is also necessary to feed the colonies during the periods of food shortages. The colonies of *A. mellifera*, less adapted to the climatic conditions of Southeast Asia than the colonies of *A. cerana*. *A. mellifera* are also more sensitive to the periods of nectar and pollen scarcity. The beekeepers working with *A. mellifera* need to be provide sugar for the bee. This dependence induces a sensitivity of the beekeepers to the price of sugar. It is an additional fragility of this type of beekeeping production system.

One of the most prevalent problems faced by beekeepers is that of absconding colonies. Several causes have been identified, and these include: invasion by ants and hive beetles, animal disturbance, effects of drought, lack of proper bee management, and human disturbance. Most of these however can be minimised by strengthening management practices. Another key constraint is that beekeepers are not able to access lucrative markets. This is due to their fragmented production units, which

makes collective action in input acquisition, production planning and output marketing difficult; low production efficiency; and inadequate infrastructure.

Opportunities

Some opportunities that can be found from this study are: improve hive practices, increase price of honey, promote benefits of bees to horticulturalist, using bee for plants pollination, and improve queen breeding. Beekeepers can work together with farmers who usually need the presence of bees to pollinate their crops. There are farmers who are willing to lend their land for free to beekeepers for bee pollination puposes. Beekeepers can make a long term deal with such farmer, and manage their beehives accordingly to the crop growing cycle.

Threats

Imported honey competitiveness, exotic diseases/bio security, land–sub divisions, fuel prices, lack of unity, lack of disease control or working of bees in an accepted manner, and pressure from packers by re-prices, are some threats that may affect small-scale beekeeping development in Kampong Nyalenghor.

Conclusion

This study concluded that Kampong Nyalenghor potential to be a beekeeping development area, although there were some weaknesses and threats that could hinder this development effort. From this study we suggest that it would be advisable to undertake work combining the study of beekeeping knowhow in the district, the search for simple techniques of improvement of beekeeping as well as products obtained and the extension of these techniques near the beekeepers and interested village communities. In longer term, this work of promotion of beekeeping could be completed by the research and the selection of colonies for which the frequency of swarming and desertion is lesser. We still need to conduct scientific research on the properties of honey for various application areas, including food, cosmetic and wellness. Local government should provide technical support and/ or fund research to find solutions for honey application constraints when honey is used as an ingredient.

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