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## Constraints related to production and marketing of honey in Pathanamthitta district of Kerala

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#### Abstract

Beekeeping is important for securing food, poverty reduction, health, environmental protection and plant pollination. Apiculture is challenged by many biotic and abiotic factors in recent years. These factors affect honeybees and their valuable products either together or alone. The demand of honey has increased especially in Kerala during COVID-19 as people got more aware about its wide variety of uses and importance. Honey marketing is in unorganized sector and there is a great potential for exporting. It is a specialized field and best left to professional. Pathanamthitta district of Kerala was selected for the study. The survey was taken from 60 respondents from 5 villages. The study was conducted in the year 2021-2022 years. This review paper examined the constraints faced by the beekeepers while producing and marketing of the honey which revealed that unavailability of skilled labours during production and lower price of honey in marketing are the major constraints expressed by the beekeepers.

Keywords: Honeybees, beekeeping, constraints, ranking

#### Introduction

The honeybee is a beneficial social insect. Honey is an important food source for securing food, reducing poverty, employment generation, income generation, environmental protection from pollution, and caring for human health (Africa Union Inter African Bureau for Animal Resources, 2019). The other products obtained from beekeeping are honey, conserving biodiversity, pollinating crops beeswaxes, propolis, royal jelly, venom, apitherapy, and revenues. Apiculture practices had begun 4500 years ago (Food and Agriculture Organization of the United Nations, 2009) <sup>[6]</sup>.

Including apiculture in agriculture for promoting diversification could provide both food, nutritional, medicinal and livelihood security to the rural work force on an ecologically sustainable basis. So, by getting sustainable food security it will provide a balanced diet including the needed micronutrients. The traditional method of honey harvesting was smoking away the honeybees and squeezing out the combs. Honey has been traditionally utilized in various diet preparations, medicines, cosmetics, ointments and house-hold items. Honeybee apiaries, thus, prove to have an important value in terms of food and medicinal security. Honeybees produce wax which is extremely costly and is sort of frequently utilized in industries. Wax is used in the preparation of cosmetics, boot polish and water-proof paints. Propolis has antiseptic and anesthetic properties and is commonly used as an ingredient in medicines, toothpastes, oral sprays and chewing gums, and in shampoos, soap, skin ointments and cosmetics. It is most ordinarily sold as a tincture of propolis made by dissolving it in alcohol. Propolis was utilized in healing the wounds of the wounded soldiers during the second world wars. It is, therefore, needed to market and develop beekeeping industry in India for breakthrough in agricultural production, self-employment generation and socio-economic upliftment in rural areas. However, for the effective popularization of apiculture in the farming communities, it is important to know about the constraints faced by the beekeepers in production and marketing of honey so that there would be better policies to support the beekeepers.

#### **Research Methodology**

Ex post facto study or after-the-fact research design was used for the study as it describes the characteristics that are being studied. The present study was conducted in Pathanamthitta district of Kerala in the year 2022. Multistage randomized sampling has been used for the selection of Konni block from 8 blocks because it has large area of rubber and coconut

orchard, its favorable climatic condition and hilly region makes it more suitable for bee keeping and high production of honey, and moreover it was easily accessible to researcher to visit the block. Out of total villages 4 villages were selected randomly i.e., Mylapra, Konni, Aruvappulam, Pramadom, and Malayalapuzha. 60 respondents were selected randomly and categorization of beekeepers was based on the number of beehives as small, medium and large apiary, which had 30 small beekeepers, 23 medium beekeepers and 7 large beekeepers. The primary data for the study was collected from respondents using pre structured interview schedules were widely used.

#### **Analytical Tools**

For the presentation of the results and to analyze the data suitable tabular and functional analysis were applied. Garrett ranking technique was applied to analyse and rank various constraints as experienced and unveiled by respondent beekeepers in performing their honey business. The respondents were asked to rank the factors that have probably restrained their performance in obtaining expected outcome in honey production. The most common problems in beekeeping in the region are: unavailability of skilled labours, climate change (heat, drought and rain), lack of knowledge with respect to management of apiary, lower price of honey, problem in management during extreme conditions, The order of the merit given by the respondents to each problem has been converted into ranks using the following formula for production and marketing in two different tables:

Percent position=
$$\frac{100(R_{ij}-0.5)}{N_j}$$

where,

 $R_{ij}$  = Rank given for the ith variable by the respondents  $N_j$  = Number of variables ranked by jth respondents The percent position of each rank was converted into scores by referring tables given by Garrett and Woodsworth

#### **Objective of the study**

To identify different constraints faced by beekeepers in production and marketing in the study area

#### Results and Discussion Constraints faced during Production of honey

Sr. No	Constraints	Average score (Per cent)	Rank
1.	Unavailability of skilled labours	67.15	Ι
2.	Climate change (heat, drought and rain)	58.75	Π
3.	Lack of knowledge with respect to management of apiary	48.45	III
4.	Diseases of honey bee	41.68	IV
5.	Lack of beekeeping equipments and materials locally	45.91	v
6.	Financial problems	46.11	VI
7.	Inability in the part of beekeepers for moving their colonies to other places	46.58	VII
8.	Pesticide poisoning	45.35	VIII

Table 1: Constraints related to production of honey

and trained labors. Table 1 shows that the number of trained and skilled labours and unavailability has been ranked I from the beekeeper's opinion. Due to the drought and heat for the last 2 years had decreased the honey production said by the beekeepers and due to this there is a great chance for dissertation of bees. As the nectar and pollen are drying up fast and bees are starving. This will also affect the colony growth. The unpredictable rain during the honey harvest will yield zero honey. Thus, climate change is ranked II. Lack knowledge with respect to management of this industry has been ranked III. Sometimes because of spread of diseases, certain fatal the whole colony dies thus it is ranked IV. Lack of beekeeping equipment's and materials locally was ranked V. Financial problem ranked VI, inability in the part of beekeepers for moving their colonies to other places ranked VII and pesticide poisoning ranked VIII.

#### **Constraints faced during marketing**

Table 2: Constraints related to marketing	of honey
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Sr. No	Constraints	Average score (Per cent)	Rank
1.	Lower price of honey	64.43	Ι
2.	Problem in management during extreme conditions	63.11	Π
3.	High Transportation cost	62.86	III
4.	Lack of proper storage facilities	38.7	IV
5.	Selling product directly to consumers in market by following FSSAI standards	36.55	v
6.	Lack of knowledge about market area	34.33	VI

Table 2 shows the constraints faced by the beekeepers in marketing of honey. Most of the respondents expressed that major constraint was lower price of honey which has been ranked I, followed by problem in management during extreme conditions with rank II, high transportation cost with rank III, lack of storage facilities was ranked IV, selling product directly to consumers in market by following FSSAI standards with rank V and lack of knowledge about market area ranked VI.

#### Conclusion

Findings of the present study revealed that major constraints were unavailability of skilled labours because bee keeping is a kind of rearing in which it requires skilled and trained labors for its management and lower price of honey was major marketing constraint as most of the beekeepers feel they aren't receiving the output for the input and effort they put in. Hence government should consider resolving these constraints.

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Bee keeping is a kind of rearing in which it requires skilled

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