

Constraints Encountered by the Beekeepers under National Horticulture Mission in Rajasthan, India

K.L. Dangi¹ and Jaya Mehra² and Bharat Bhushan³

¹ Professor, Department of Extension education, Rajasthan College of Agriculture, Maharana Pratap University of Agriculture, Udaipur-313001 (Rajasthan), India.

² Ex- Ph.D student, Department of Extension education, Rajasthan College of Agriculture, Maharana Pratap University of Agriculture, Udaipur- 313001 Rajasthan, India.

³ Dy. Registrar (academics), SKUAST, Jammu, India.

Abstract

National Horticulture Mission was been launched in May, 2005 as a Central Sponsored Scheme to promote holistic growth of horticulture sector through area based regionally differentiated strategies. The role of beekeeping in providing nutritional, economic and ecological security to the rural communities at the household level is an additional income generating activity.

The present investigation was conducted in 41 villages of Kota district of Rajasthan (India), where from in all 151 beekeepers were interviewed for collecting the pertinent information through face-to-face interview technique. SPSS version 13.0 was made use of for analyzing the data. The spastics viz. frequency distribution, percentage, Mean per cent score, and ranking were applied for deriving the inferences related to constraints

As many as 122 (80.8 per cent) of the beekeepers perceived high level of severity of constraints in adoption of scientific beekeeping. Besides, 29 (19.2 per cent) beekeepers faced moderate level of severity about constraints in adoption of scientific beekeeping.

Majority of the respondents expressed "migration (MPS 63.89)", "marketing constraints (MPS 62.3)", "input related constraints (MPS 58.04)" and "technical constraints (MPS 57.23)" were the most severe constraints in the growth of beekeeping.

It is recommended that all possible constraints must be reduced as far as possible.

Constraints related to marketing should be reduced by providing marketing facilities, remunerative prices must be assured to the beekeepers and produce procurement facilities must be rendered to the beekeeping so that beekeepers may perceive profitability.

Case study (of Mr. Narender Kumar Malav son of Mr. Kalu Lal Malav) based recommendation is being made to encourage the farmers for venturing the Beekeeping subsidiary occupation.

Keywords: National horticulture mission, Central sponsored scheme, migration

National Horticulture Mission was been launched in May, 2005 as a Central Sponsored Scheme to promote holistic growth of horticulture sector through area based regionally differentiated strategies. For this scheme, Government of India contributes 85 per cent and 15 per cent is shared the State Governments. Beekeeping is one of the interventions which are being supported by the Government for the farmers. The present research paper emphasizes the constraints being faced by the beekeepers in their venture. Beekeeping is an important component

of agriculture and rural development programmes in many countries. The role of beekeeping in providing nutritional, economic and ecological security to the rural communities at the household level is an additional income generating activity.

So far very little efforts might have been made in evaluating the NHM and to ascertain the constraints encountered by the beekeepers. With this background, the present empirical study was undertaken in Rajasthan. The specific objective of the present study

was to identify the constraints faced by the keepers and to solicit the suggestions to overcome them for successfulness of the scheme.

Ahmad *et al.* (2007) expressed that beekeeping contributes in a balanced way to rural development efforts, leading to secure and sustainable livelihoods. Supplementary model of development consists of five major elements: physical security, economic security, empowerment, social security, and conservation of resources.



Fig. Honey Bee

Shivamurthy (1988) found that there was no uniform pattern in adoption of recommended sericulture practices by the sericulturists. A large percentage of sericulturists were found to have low mean adoption score.

Brar *et al.* (1992) observed that mites have been found to infest up to 24.6 per cent in Italian bee colonies and wax moth has found to infest 4.6 per cent to the bees colonies. The green bee also enters to create problem during monsoon and winter season.

Sahinler and Gul (2003) reported that major constraints faced by the beekeepers were old and unproductive colonies, lack of knowledge in many aspects of beekeeping and lack of organization among the beekeepers.

METHODOLOGY

The present investigation was conducted in 41 villages of Kota district of Rajasthan (India), where from in all 151 beekeepers were interviewed for collecting the pertinent information through face-to-face interview technique. SPSS version 13.0 was made use of for analyzing the data. The spastics viz. frequency distribution, percentage, Mean per cent score, and

ranking were applied for deriving the inferences related to constraints.

RESULTS AND DISCUSSION

Constraints Encountered by the Beekeepers

Scientific research in the field of beekeeping is moving in regular way. But the most complex and significant problem of our age is dissemination of new technology and its utilization by the beekeepers. As in the field of beekeeping there is a tremendous gap between knowledge production and knowledge utilization. The most significantly contributing causes to this gap are the constraints encountered by the beekeepers which affect the effective dissemination and utilization of scientific beekeeping.

In the present context, the term constraint refers to the barricades which hinder the adoption of recommended beekeeping technologies. Keeping this in view, it was felt appropriate to find out different constraints responsible for adoption or non-adoption of recommended scientific beekeeping. Efforts were made to classify the constraints into seven major categories *i.e.* technical constraints, economic constraints, input related constraints, infrastructural constraints, constraints related to migration, marketing constraints and social constraints. These constraints with their degree of intensity have been presented under various heads in the subsequent tables.

Distribution of beekeepers on the basis of constraints encountered by them in adoption of scientific beekeeping

To get an overview of the beekeepers regarding the constraints encountered by beekeepers in the adoption of scientific beekeeping, they were divided into three strata *i.e.* High, moderate, and low level of constraints. These categories were formed on the basis of arbitrary method based on scores of the constraints.

Table 1: Overall distribution of Beekeepers according to the constraints faced by the Beekeeping

n = 151		
Sl.No.	Category	f (%)
1	Moderate (31 to 50)	29(19.2)
2	High (≥ 51)	122(80.8)
	Total	151(100)

f =frequency, Figures in the parentheses show the per cent

The data incorporated in Table 1 reveal that 122 (80.8 per cent) beekeepers perceived high level of constraints

in adoption of scientific beekeeping. Besides, 29 (19.2 per cent) beekeepers faced moderate level of constraints in adoption of scientific beekeeping.

Overall major constraints faced by the beekeepers in beekeeping venture

To get an overview of the overall constraints faced by the beekeepers in scientific beekeeping, the overall score for each major head was summed up and the results have been presented in table 2.

The data incorporated in Table 2 divulges that the respondents expressed constraints related to migration (MPS 63.89) and marketing constraints (MPS 62.3) as quite severe in the growth of beekeeping and assigned first and second rank in the problem hierarchy. These were followed by input related constraints and technical constraints. The mean per cent scores of these constraints were 58.04 and 57.23 and were assigned III and IV ranks by the respondents respectively. Furthermore, social constraints (MPS 56.26), economic constraints (MPS 54.5) and infrastructural constraints (MPS 53.96) were also found somewhat severe and were assigned rank V, VI and VII respectively.

Table 2: Major constraints faced by Beekeepers during scientific Beekeeping

n = 151			
Sl.No.	Constraint	MPS	Rank
1.	Technical constraint	57.23	4
2.	Economic constraint	54.5	6
3.	Input related constraint	58.04	3
4.	Infrastructural constraint	53.96	7
5.	Constraint related to migration	63.89	1
6.	Marketing constraint	62.3	2
7.	Social constraint	56.26	5

Suggestions to overcome the constraints faced by the beekeepers

In the present study, beekeepers had faced various constraints and had various constraints which hindered in the adoption of scientific beekeeping. Beekeepers offered the possible suggestions to overcome the constraints and to boost the adoption of scientific beekeeping.

Data in Table 3 reveal that beekeepers realized that suggestions for knowledge up gradation, suggestions for economic constraints and suggestions for infrastructural constraints were ranked I, II and III with

MPS 64.73, 55.08 and 54.30 respectively. However, the beekeepers viewed suggestions for skill improvement (MPS 51.4) suggestions for increasing awareness and interest (MPS 50.36) and suggestions for marketing constraints (MPS 49.22) which were placed at IV, V and VI positions in the rank hierarchy on the basis of the importance of the suggestions.

Table 3: Overview of the suggestions to overcome the constraints faced by the Beekeepers

n = 151			
Sl. No.	Suggestion	MPS	Rank
1	Suggestions for knowledge up gradation.	64.73	1
2	Suggestions for skill improvement.	51.4	4
3	Suggestions for increasing awareness and interest.	50.36	5
4	Suggestions for economic constraints.	55	2
5	Suggestions for infrastructural constraints.	54.3	3
6	Suggestions for marketing constraints.	49.22	6

Beekeepers were also suggested some suggestions by themselves to overcome the constraints faced by them and which will help in increasing the adoption of this vocation were listed below:

1. Like crop, insurance facility of bee insurance should be there.
2. During migration police should be cooperate them and protect them from other octroi.
3. Beekeeping should be encouraged by other departments like forest department.
4. Availability of books, scientists' literature related to beekeeping in easy and local language.
5. Information related to scientific beekeeping should be provided by Kisan Call Centers.
6. Government should provide license to the beekeepers for migration so that they can easily migrate their bees to other states.
7. Availability of skilled manpower and training institutions.

In the Table 4 data showed that 92.05 per cent beekeepers suggested that Government should provide license to the beekeepers for migration so that they can easily migrate their bees to other states, and 80.79 per cent beekeepers were given the suggestions like crop insurance, facility of bee insurance should be there. Availability of skilled manpower and training institutions was suggested by 71.52 per cent, availability of books, scientists' literatures related to beekeeping in

easy and local language (63.57 per cent) beekeepers. Besides, 59.60 per cent were suggested Kisan Call Centers should also provide information related to scientific beekeeping, beekeeping should be encouraged by other department like forest departments (56.7 per cent) and 55.1 per cent were suggested “during migration police should cooperate them and protect them from other octroi”. All these suggestions given by the beekeepers would help to improve beekeeping programme under NHM.

Table 4: Suggestions given by the Beekeepers that might help to improve beekeeping programme

		n = 151
Sl.No.	Suggestion	f(%)
1	Availability of books, scientists’ literatures related to Beekeeping in easy and local language.	96(63.57)
2	Like crops insurance of bees should be done.	122(80.79)
3	Government should provide license to the Beekeepers for migration so that they can easily migrate their bees to other states.	139(92.05)
4	Information related to scientific beekeeping should be provided by Kisan Call Center.	90(59.60)
5	Availability of skilled manpower and training institutions.	108(71.52)
6	Beekeeping should be encouraged by other departments like Forest department.	(56.70)
7	During migration police should co-operate them and protect them from other octroi.	(55.10)

f = frequency, Figures in the parentheses show the per cent

CASE STUDY

Case study of successful beekeeping is a method to present qualitative data. One case study was conducted under the present investigation. This is narrated as under.

Case Study of Successful Beekeeper

Mr. Narender Kumar Malav son of Mr. Kalu Lal Malav resident of village Dangawat, panchayat samiti Sultanpur, District Kota. With the help of horticulture department in beekeeping scheme of NHM, he got bee-boxes and bee-colonies on subsidy in year the 2005-06 and started beekeeping vocation with his family. He himself taken personal interest and with hard work along with his family, he got training from the

department and remained in close contact with officials and experts of the beekeeping. He increased his bee-colonies in number and made them so much strong that during 2007-08, 2008-09, he became the bee breeder and started supplying bee-colonies to other farmers. He became economically sound and self-reliant.

He became the inspiration for approximate 100 farmers of Sangod area to start beekeeping. After getting inspiration they all started beekeeping vocation and honey production. They all were of young age and all were unemployed. They got loan from Hadoti Shetriye Gramin Bank branch- Kamolar, Sangod. They all paid their loan completely in the first year of beekeeping vocation.

He became the successful beekeeper in the production of honey, he became role model for other farmers and he popularized the name of the Kota district in honey production on the map of Rajasthan. For his outstanding work, he was awarded at district level on 15th august 2007 and 26 January 2010 by the district Collector of Kota. And on the state level, he was also awarded with appreciating citation and cash award of ` 25000 by the Former Chief Minister Shri Ashok Gehlot on 28 March, 2010.

Findings

As many as 122 (80.8 per cent) of the beekeepers perceived high level of severity of constraints in adoption of scientific beekeeping. Besides, 29 (19.2 per cent) beekeepers faced moderate level of severity about constraints in adoption of scientific beekeeping.

- Majority of the respondents expressed “migration (MPS 63.89)”, “marketing constraints (MPS 62.3)”, “input related constraints (MPS 58.04)” and “technical constraints (MPS 57.23)” were the most severe constraints in the growth of beekeeping.

Recommendations

- Majority of the respondents expressed moderate level of severity of constraints regarding adoption of beekeeping. Hence, it is recommended that all possible constraints must be reduced as far as possible.
- Coming to the specific constraints, it is recommended that constraints related to migration must be reduced as government should provide licenses to them to migrate

easily to other states. As there is risk of mortality of bees at the time of migration so to reduce this threat some strategy should be made.

- Constraints related to marketing should be reduced by providing marketing facilities, remunerative prices must be assured to the beekeepers and produce procurement facilities must be rendered to the beekeeping so that beekeepers may perceive profitability.
- It is recommended that lack of awareness, knowledge and skill about beekeeping must be reduced, intensive off campus training programmes should be organized, field visits and study tours can be arranged so that beekeepers can be exposed to the advances in this vocation.
- As far as social constraints, government should organize awareness programmes and make people aware of bees that they

are not harmful. Besides, they can earn money from bees by starting beekeeping vocation and also increases production of their crops.

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