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# Knowledge Gain through Bee Keeping Training Programme

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## ABSTRACT

Saina Nehwal Institute of Agricultural Technology, Training &Education, Chaudhary Charan Singh Haryana Agricultural University, Hisar organized eight training courses on bee keeping during the year 2017-18. In order to assess the impact of these courses on knowledge gain of trainees, pre and post training evaluation were conducted by developing a questionnaire comprising of general information and background of the participants and information related to various aspects of bee keeping. It was observed that **mostly male candidates belonging to younger age group and who dropped their education at secondary or senior secondary level come forward to adopt beekeeping as an enterprise. More than half of the respondents were from farming background including nearly 2/3rdof marginal to small and about 1/5thof landless farmers. Majority of the respondents used to contact extension experts and also used mass media regarding information. The t**raining programmes proved very effective and resulted in remarkable increase in knowledge of trainees in all aspects of beekeeping. It was concluded that school dropouts, landless, marginal to small farmers can be promoted for adopting beekeeping as an enterprise through organizing various training programmes as these proved very effective in increasing the knowledge which is helpful to start and flourish beekeeping.

**Key Words:** Assessment, Beekeeping, Knowledge gain, Training programme.

## INTRODUCTION

Beekeeping offers an immense potential for providing employment to rural masses in India, the unemployed youth in particular. It produces honey, beeswax, pollen, propolis from the flowers which otherwise dry up in nature and go waste. Itdoes not bring any pressure on agricultural land rather it increases the yield of various cross pollinated crops. Singh (2000) and Monga and Manocha (2011) reported that the honey bees increased the agricultural productivity to the tune of 30-80 per cent annually through cross pollination. The distinctive feature of beekeeping is the small capital investment required as compared to other industries. Furthermore, beekeeping does not need raw material in usual sense as nature provides the same in the form of nectar and pollen (Sharma and Dhaliwal, 2014).

During the last years, adoption of beekeeping as an enterprise increased substantially due to increased awareness among the people about the benefits of beekeeping. Although, a large number of people are performing this activity as a main or allied occupation, but most of them have started without going through any training programme. Due to lower or incomplete knowledge about beekeeping, they are unable to give their best in earning the maximum from this occupation. To start any activity, complete knowledge about its all aspects is utmost important. In this regard, training is major catalytic force for augmenting human productively in all spheres of development. Training plays an important role in providing necessary technical knowledge, attitude and skill required for taking up self-employment ventures. An evaluation study of such self-employment oriented training programme

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**Table 1. Socio-economic characteristics of trainees. (n= 272)**

| Sr. No. | Particular | Frequency | Percentage |
|---|---|---|---|
| 1. | **Gender** | | |
| | Male | 256 | 94.12 |
| | Female | 16 | 5.88 |
| 2. | **Age** | | |
| | Young (18-35 yr) | 220 | 80.88 |
| | Middle (36-50 yr) | 44 | 16.18 |
| | Old age (>50 yr) | 8 | 2.94 |
| 3. | **Caste** | | |
| | Scheduled caste | 48 | 17.65 |
| | Backward Caste | 36 | 13.24 |
| | General | 188 | 69.11 |
| 4. | **Education** | | |
| | Illiterate | 4 | 1.47 |
| | Primary | 12 | 4.41 |
| | Middle level | 12 | 4.41 |
| | Matriculate | 60 | 22.06 |
| | Senior Secondary | 104 | 38.24 |
| | Diploma holder | 16 | 5.88 |
| | Graduation | 48 | 17.65 |
| | Post Graduate | 16 | 5.88 |
| 5. | **Social participation** | | |
| | Yes | 48 | 10.29 |
| | No | 244 | 89.71 |
| 6. | **Occupation** | | |
| | Farming | 160 | 58.83 |
| | Labor | 12 | 4.41 |
| | Business | 12 | 4.41 |
| | Service | 4 | 1.47 |
| | Housewife | 16 | 5.88 |
| | Others (Retiree, student) | 68 | 25.00 |
| 7. | **Land holding** | | |
| | Landless | 52 | 19.12 |
| | Marginal (<1 ha) | 68 | 25.00 |
| | Small (1-2 ha) | 116 | 42.65 |
| | Semi medium (2-4 ha) | 28 | 10.29 |
| | Medium (4-10 ha) | 4 | 1.47 |
| | Large (>10 ha) | 4 | 1.47 |
| 8. | **Annual Income** | | |
| | Low (< 1 lakh) | 88 | 29.41 |
| | Medium (1-2 lakh) | 148 | 54.41 |
| | High (> 2 lakh) | 44 | 16.18 |

would help to throw more light on the possibility of improving the programme in future. In view of this, the present study was undertaken to assess the impact of the beekeeping training programmes on knowledge gain of the trainees.

## MATERIALS AND METHODS

The present study was carried out at Saina Nehwal Institute of Agricultural Technology, Training & Education, Directorate of Extension Education, CCS, Haryana Agricultural University, Hisar (Haryana). During the year 2017-18, this institute organized eight training programmes (3-5d duration) on bee keeping for farmers, women and unemployed youth in which a total of 272 trainees participated from different districts of Haryana and adjoining states. To assess the impact of training on knowledge gain of the trainees, pre and post training evaluation were conducted. For this, a questionnaire was developed comprising of general information and background of the participants such as sex, age, education level, occupation, landholding etc., and information related to various aspects of beekeeping. The gain in knowledge was calculated from difference of scores obtained by the participants in pre and post training evaluation test. The data were tabulated and analyzed in terms of frequency and percentage.

## RESULTS AND DISCUSSION

### Socio-economic characteristics of trainees

The data regarding socio-economic characteristics of the trainees revealed that mostly male candidates come forward to adopt beekeeping as an entrepreneurship as compared to the females (Table 1.). More than 3/4$^{th}$of the trainees belonged to younger age group (18-35 yr) indicating that youth is more innovative and responsive to new vocation. These results were in line with the findings of Verma et al (2018) and Moniruzzaman and Rahman (2009).Information with respect to caste showed that participants irrespective of caste system were involved in the training. It was also inferred from the data that the participation of person who dropped their education at secondary or senior secondary level was more (60.30%) in the training programmes as compared to the others. These results were in accordance with the study conducted by Mujuni et al (2012) and Lal et al (2012). It indicated that this type of vocation is best suited to the persons who could not keep their education continue after secondary or senior secondary level due to one or the other reason.

It was evident from the data that only 10 per cent of the respondents were involved in social activities. More than half (58.83%) of the respondents were from farming background indicating the interest of farmers in adopting beekeeping as an allied activity to supplement their family income. Singh et al (2018) also reported that the farmers showed more interest in beekeeping than the person from other occupations. Possession of land is a precious and secure resource and property which influence the social and economic status of a person. Nearly 2/3$^{rd}$of the respondents were having marginal to small land holding and about 1/5$^{th}$were from landless category. It showed that beekeeping enterprise does not require much land and even landless farmers can adopt this activity as an occupation. It was also inferred from the study that more than 3/4$^{th}$ of the respondents were having low to medium annual income.

### Reason of participation

The data regarding the factors which motivated the respondents to join the training programme indicated that more than eighty per cent of the respondents joined to adopt beekeeping as an occupation, 6.25 per cent to improve the knowledge and 4.41 per cent just to know about beekeeping (Table 2.). Only 3.68 per cent of respondents joined the training just to get the certificate of training. A few of participants were interested in establishing linkage with the university and teaching the fellow beekeepers.

**Table 2. Reasons of participation in training programme on beekeeping . (n= 272)**

| Sr. No. | Reason | Frequency | Percentage |
|---|---|---|---|
| 1. | To adopt beekeeping as an enterprise | 223 | 81.98 |
| 2. | Just to know about beekeeping | 12 | 4.41 |
| 3. | To get certificate of training course | 10 | 3.68 |
| 4. | Establish linkage with university | 6 | 2.21 |
| 5. | To teach fellow beekeepers | 4 | 1.47 |
| 6. | To improve the knowledge | 17 | 6.25 |

**Contact to extension experts**

The extension system of any state/country is an important medium for dissemination of various technologies among the people. Multiple responses were received from the respondents regarding contact with various extension agencies (Table 3.). About 3/4$^{th}$of the respondents used to contact agricultural experts for information regarding agriculture and allied activities. Similarly, more than 3/4$^{th}$of the respondents used to contact the Department of Health (80.88%), and Department of Animal Husbandry and Veterinary Sciences (79.41%) for various purposes.

**Mass media exposure**

Mass media also plays an important role in dissemination of innovation and technologies among people. It was evident from the data that all the respondents used to watch on T.V. and majority (64.71%) used to hear on radio for various programmes which might include some educational programmes also (Table 3.). Majority of the respondents also accessed print media like newspaper (91.18%) and magazines (79.41%), and also used to visit exhibitions (61.76%). Monga and Manocha (2011) also reported that multiple responses were received regarding access to various audio-visual aids, print media and other means of mass media.

**Table 3. Contact to extension experts and exposure to mass media. (n= 272)**

| Particular | Frequency | Percentage | | Frequency | Percentage |
|---|---|---|---|---|---|
| **Contact to extension experts** | **Contact** | | | **No contact** | |
| Agriculture experts | 196.00 | 72.06 | | 76 | 27.94 |
| Deptt. of Public Relation | 88.00 | 32.35 | | 184 | 67.65 |
| Child Dev. and Family Welfare | 112.00 | 41.18 | | 160 | 58.82 |
| Deptt. of Health | 220.00 | 80.88 | | 52 | 19.12 |
| Deptt. of Animal Husbandry & Veterinary Sciences | 216.00 | 79.41 | | 56 | 20.59 |
| **Exposure to Mass media** | **Exposure** | | | **No exposure** | |
| Radio | 176.00 | 64.71 | | 96 | 35.29 |
| TV | 272.00 | 100.00 | | 0 | 0.00 |
| News paper | 248.00 | 91.18 | | 24 | 8.82 |
| Magazines | 216.00 | 79.41 | | 56 | 20.59 |
| Exhibitions | 168.00 | 61.76 | | 104 | 38.23 |

**Table 4.Knowledge gain after acquiring training with respect to various aspects of beekeeping.**

**(n= 272)**

| Sr. No. | Particular | Pre-evaluation (%) | Post-evaluation (%) | Gain in knowledge |
|---|---|---|---|---|
| 1. | General information about beekeeping | 28.24 | 91.47 | 63.23 |
| 2. | Different species of honey bee | 20.88 | 84.41 | 63.53 |
| 3. | Bee flora | 19.12 | 86.76 | 67.64 |
| 4. | Family organization of honey bees | 17.35 | 89.41 | 72.06 |
| 5. | Working of honeybees | 16.18 | 84.71 | 68.53 |
| 6. | Seasonal management of honeybees | 17.94 | 86.76 | 68.82 |
| 7. | Insect pest management | 11.47 | 85.00 | 73.53 |
| 8. | Disease management | 10.00 | 86.18 | 76.18 |
| 9. | Honey extraction and processing | 11.18 | 87.94 | 76.76 |
| 10. | Economic aspect of beekeeping | 14.71 | 89.12 | 74.41 |

**Increase in knowledge after acquiring training**

The training programmes proved very effective in increasing the knowledge of trainees. The study revealed that in pre-evaluation test the knowledge range of different participants was 10.0 per cent in case of disease management to 28.24 per cent regarding general information about beekeeping (Table 4.).

However, in post training evaluation there was a significant increase in the knowledge of participants regarding various aspects of beekeeping ranging from 63.23 per cent in case of general information about beekeeping to 76.76 per cent in honey extraction and processing. Similar results were observed in the study conducted by Kaur (2016) and Dalmia and Kumar (2018).

It was observed that prior to attend the training, the trainees had some knowledge about beekeeping but it was not up to the satisfactory level. However, knowledge score gained by the participants after going through the training programmes was more satisfactory in all aspects of beekeeping. This notable increase in knowledge might be due to the educational background of participants, keen interest taken by them and well organization of the training programmes with sufficient information.

## CONCLUSION

It may be concluded that male belonging to younger age group were more interested in adopting beekeeping as an enterprise which is a good sign for generating self-employment for rural youth. It can also be concluded from the study that school or college dropouts can be successfully motivated for adopting this activity for creating self-employment. Keeping in view the more interest of marginal to small farmers in this activity, this group can also be a target for promoting the beekeeping as no much land is required for this activity and even landless farmers can do this. It can be further concluded that well-organized training programme with needful information can result in remarkable increase in knowledge of the trainees which may be very useful for them to start and flourish any enterprise.

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