

## Case Study

# Association of Socio-Personal and Psycho-Economic Variables with Knowledge of Beekeepers in Bihar

Ashok Kumar<sup>1\*</sup>, Maya Kumari<sup>2</sup> and Nausad Ansari<sup>3</sup>

<sup>1</sup>SMS (Extension Education), KVK, Gaya (Bihar), India

<sup>2</sup>SMS (H.Sci. Extension), KVK, Sahebganj (Jharkhand), India

<sup>3</sup>Department of Extension Education, TCA, Dholi, Muzaffarpur, India

*\*Corresponding author*

## ABSTRACT

The present study was concentrated at the Honeybee Research and Training Centre, R.A.U., Pusa (Bihar) which investigated the association of socio- economic and demographic characteristics of trainees with gain in their knowledge in beekeeping training programme. For this, a total of 196 respondents (who participated in beekeeping training at the Center) were selected randomly and constituted the sample of the present study. A 'Pre' and 'Post' research design was used. The study revealed that the training plays a vital role in enhancing knowledge of the trainees. During pre-training session trainee's socio-personal and psycho-economic characteristics of beekeepers were not up to the mark as they were raw hands but after being exposed to the scientific beekeeping training, their psycho-economic characteristics has increased considerably leading to increasing the socio – economic status of trainees.

### Keywords

Socio-personal and psycho-economic variables, Beekeeping, training and Knowledge

## Introduction

Beekeeping is useful not only to the beekeepers who receive income from the honey and bee wax but it also benefits the community as a whole. In developing countries, it can be used in rural development programme designed to increase the income of individuals as well as of the group and thus has great potential in raising the economic and social status of rural communities. Beekeeping is ecologically sound, economically viable and socially acceptable enterprise. It is an ideal activity for the socio-economic development of rural people. By assuring a stable occupation and source of income to rural people, it holds great promise to raise their standard of living, promote their economic

independence and boost their socio-economic status (Goyal, 1993). There are abundance of foliage present for bees in Bihar state and also congenial environment, it has vast scope of establishing this enterprise, hence, it becomes imperative to study the association of socio – personal and psycho – economic characteristics of trainees with the knowledge regarding scientific honey production technology.

## Materials and Methods

The present study was concentrated at the Honeybee Research and Training Centre, R.A.U., Pusa (Bihar). The main reason for purposive selection of this Centre was easy

availability of trainees from all round the year pertaining to the objective of the study and hence it became convenient for the investigator to conduct the research treatments at this Centre as per the requirement of the study. The sample, for the present investigation, consisted of a group of 196 trainees participating in the scientific beekeeping training programme at the Beekeeping Research and Training Centre, R.A.U., Pusa (Bihar). Here, the same group of respondents were studied twice (i.e. firstly when they were not exposed to such training programme and secondly just after they have been imparted such training). The basic idea behind taking such group of respondents was to see the impact of training on the same person and then to determine whether there was any change in the magnitude of behavioral components (i.e. knowledge) of the trainees due to scientific beekeeping training programme as compared to the trainees who were not exposed to such training programme. These data were collected through personal interview. The researcher personally contacted the trainees at the Honeybee Research and Training Centre of R.A.U., Pusa. Before coming to the main schedule some personal background questions were asked from them in order to develop a good rapport with the respondents which helped in eliciting free and frank response from the respondents.

## **Findings and Discussion**

### **Age**

The perusal of data in table-1 indicates that a large proportion of trainees comprising 47.44% belonged to the young age group i.e. upto 35 years of age whereas only 3.57% of selected trainees were found in old age group. It could also be referred from this table that selected trainees for the study

were distributed in all age groups in order of young followed by middle age (31.63%), advanced age (17.34%) and old age groups.

### **Education**

Education is an important component and it was essential to assess the distribution of selected trainees on the basis of their educational level. It deals about the educational level of the selected trainees. The data presented in above table highlights that a maximum of 27.55% of trainees had high school level of their education which was followed by graduation and above level of education with 26.02% then middle level of education with 17.34% of respondents. It is further noted that 8.67% of trainees were illiterate while 6.12% of trainees were found under the literacy and 14.28% of trainees had their education only up to primary level. Thus, it could be predicted that by and large the trainees were having literacy in terms of their educational attainment.

### **Caste**

Another characteristics studied under the study was the caste and its distribution is being presented here through table-1 which reveals that majority of the trainees (35.20%) belonged to backward-II group and 11.73% belonged to backward -I category. The table also indicates that 34.18% trainees were coming from forward group while 8.87% were come under the schedule caste group. From the table it could be stated that the beekeeping enterprise had been the witness of participation from members of all groups of the society irrespective of their caste affiliation.

### **Size of family**

Size of family often affects the economic behavior of beekeepers. On the basis of size

of family the selected trainees were classified into three categories. It could be observed that majority of the trainees (40.30%) had large family size comprising more than 8 members which is followed by 36.73% medium family size and the least of 22.95% of the respondents were having small family size. Therefore, it could be predicted that joint family system still playing dominant role in the case of the trainees as they were coming from rural backgrounds.

### **Land holding**

A perusal of the table reveals that though the selected trainees belonged to all categories of land holdings but majority of them (51.53%) had small holding and few of them (2.55%) had large holding. It is also evident from the table that both categories marginal and small holders constituted more than 92% of total trainees. This may be probably due to very less average size of holding in the rural areas of the state where around 84% of training group comes under the category of small and marginal farmers.

### **Economic motivation**

Economic motivation is an important characteristics and indicator of entrepreneurial success in terms of profit maximization and relative value which individual places at their economic end. On the basis of scores pertaining to economic motivation, the percentage along with mean scores was computed. The comparison was made with respect to these value across the scores obtained in pre-training as well as in post-training sessions. The details of which are given here through the table-2.

The perusal of in R.A.U. have been classified into three groups based on their scores on the economic table-2 reveals that

the selected trainees who came for the training pertaining to the honey production technology motivation scale. Out of the total 196 trainees participated during the study, 125 belonged to low category on their economic motivation scale while 71 had medium level of economic motivation and only 2 had been indicated their high economic motivation score. It is apparent through the table that maximum percentage (63.37%) of selected trainees had shown their low level of economic motivation. This situation relates during the pre-training period of the respondents. After being exposed through the theoretical and practical training designed by the specialists and scientists of Honeybee Research and Training Centre of R.A.U., the trainees had shown the highest percentage (55.10%) economic motivation during the post training period. Even the trainees who had very low level of economic motivation had changed themselves into either high (23.97%) level of economic motivation or medium level of (55.10%) level of economic motivation. Even during the pre-training lowest percentage (1.02%) of economic motivation was found in high category of economic motivation which has been converted after the post-training period in low category of economic motivation.

The reflections were being supported with the average scores (2.94) of the pre-training period with the average score (4.29) of post-training period. Here, difference value indicates 1.35 which inferred about the relative contribution of the training for increasing the overall economic motivation among the selected trainees.

### **Change proneness**

Change proneness is considered yet another important indicator of change in behavioural components of the respondents.

**Table.1** Socio-personal variables of trainees (N=196)

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>1 Age group (Yrs)</b>		
Up to 35	93	47.44
36-50	62	31.63
51-65	34	17.34
>65	7	3.57
<b>2 Education</b>		
Illiterate	17	8.67
Can read	0	0.00
Can read and write	12	6.12
Primary	28	14.28
Middle	34	17.34
High School	54	27.55
Graduation and above	51	26.02
<b>3 Caste</b>		
Forward	67	34.18
Backward-II	69	35.20
Backward-I	23	11.73
Schedule Caste	37	18.87
<b>4 Size of Family</b>		
Small (upto 4 members)	45	22.95
Medium (5-8 members)	72	36.76
Large (> 8 members)	79	40.30
<b>5 Land holding</b>		
Marginal (upto 1 ha)	81	41.32
Small (1-4 ha)	101	51.53
Medium (4-10 ha)	4	4.59
Large (> 10 ha)	5	2.5

**Table.2** Comparison of selected psycho-economic characteristics of trainees during ‘pre’ and ‘post’ training session (N=196)

**a) Economic motivation**

Category	Pre-training			Post-training			Av. score difference
	F	%	Av. Score	F	%	Av. Score	
Low	125	63.37		41	20.91		
Medium	71	36.22	2.94	108	55.10	4.29	1.35
High	2	1.02		47	23.97		

**b) Change proneness**

Low	134	68.36		12	6.12		
Medium	62	31.63	35.07	76	38.77	51.46	16.34
High	0	0.00		108	55.10		

**c) Credit orientation**

Low	133	67.85		6	3.06		
Medium	63	32.14	21.92	100	51.02	31.84	9.91
High	0	0.00		90	45.91		

**d) Risk preferences**

Low	149	76.02		11	5.61		
Medium	47	23.97	19.11	80	40.81	31.59	12.47
High	0	0.00		105	53.50		

**Table.3** Differential mean scores of ‘pre’ and ‘post’ training of trainees with respect to main psycho- economic characteristics of respondents (N=196)

Characteristics	Mean value		Mean difference	SEm	t-value
	Pre-training	Post-training			
Economic motivation	2.9435	4.2998	1.3563	7.6800	17.661**
Change proneness	35.0765	51.4694	16.3429	1.3580	12.071**
Credit orientation	21.9235	31.8418	9.9133	0.4186	23.695**
Risk preference	19.1122	31.5918	12.4796	0.4430	28.170**

**Table.4** Coefficient of correlation between selected characteristics and their knowledge of honey production technology

Sl. No.	Independent variables	Value of coefficient of correlation (r)	
		Pre training	Post training
1.	Age	-0.170*	-0.162*
2.	Education	0.505**	0.624**
3.	Caste	0.294**	0.548**
4.	Size of family	-0.174*	-0.169*
5.	Land holding	0.209**	0.241**
6.	Economic motivation	0.396**	0.639**
7.	Change proneness	0.090 <sup>NS</sup>	0.771**
8.	Credit orientation	0.236**	0.762**
9.	Risk preference	0.250**	0.781**

\*\*Significant at 0.01 level of probability

\*Significant at 0.05 level of probability.

On the basis of change proneness, the trainees have been distributed and described here. A careful glance over table-2 reveals that the selected trainees had been classified into three groups based on the scores obtained on the change proneness scale. It was found that out of 196 trainees participated during the study, 134 belong to low category while 62 belong to medium category and none of them had high level of change proneness during pre-training period. It is apparent from the table that maximum percentage (68.36%) of selected trainees had shown their low level of change proneness followed by medium level of change proneness (31.63%) and no one had high level of change proneness during pre-training period.

After being exposed to the scientific beekeeping training, it was found that maximum of (55.10%) respondents had acquired high level of change proneness followed by medium (38.77%) and then low (6.12%) level of change proneness. It is noted that the maximum number of respondents (134) found in low category during pre-training period which had been shifted to maximum in high category (108) of change proneness and to some extent in medium (76) category of change proneness

while 12 were only left in the low category of change proneness during post-training period.

The data presented in the table revealed that training had positive impact in enhancing change proneness toward the honey production technology which were also reflected through the fact that during pre-training the average score of 33.07 increased to 51.46 during post-training period showing average score difference of 16.34. This was an indicative of positive impact of training on change proneness of the respondents.

### Credit orientation

On the basis of credit orientation which indicates the positive and negative feeling of an individual towards various aspects of credit use for productive purpose. The table above highlights the trend of distribution of the selected trainees and, hence, gives important information about them. The perusal above table represents the data relating to credit orientation of the selected trainees participated at Honeybee Research and Training Centre, R.A.U., Pusa during the study. The table indicates that out of total of 196 selected trainees 133 belonged to low category on their credit orientation

scale while 63 were found in medium category but no one was found in high category of credit orientation scale. It is apparent through the table that during pre-training a maximum of 67.85 percent had shown their low level of credit orientation and 32.14 percent showed medium level of credit orientation while none of them showed high level of credit orientation.

After being exposed to the training it was found that same trainees who had low level of credit orientation had acquired either medium level of credit orientation or high level of credit orientation. Through the table, it is apparent that after training a maximum of 100 respondents shifted to the medium category of credit orientation followed by 90 respondents in high category of credit orientation parameter and only 6 respondents found to have their position in low category of credit orientation scale. The table revealed that a maximum of them (51.02%) had medium level of credit orientation trailing behind by high (45.91%) and only few (3.06%) in low level of credit orientation.

The table also reflects the facts that average score of 21.92 during pre-training had increased to 31.84 during post-training period with average score difference of 9.91 which is an indicative of increasing credit orientation among the respondents due to theoretical and practical training imparted during the study.

### **Risk preference**

It refers to the degree of risk taking ability with expectation of some higher yield. It may be considered as an important indicator to know the effectiveness of training. The distribution of selected trainees on the basis of this variable has been present in the above table.

A careful perusal of table indicates that selected trainees who came for training at Honeybee Research and Training Centre were classified into three categories based on their scores on the risk preference scale. It was noted that out of total of 196 respondents, 147 belonged to low category of risk preference while 47 belonged to medium category of risk preference score but none was found to be in high category of risk preference scale.

It is also apparent from the table that maximum of them (76.02%) had low level of risk preference followed by medium level (23.97%) of risk preference and none of them had high level of risk preference. This was the situation during pre-training period. After being exposed to training, it was found that maximum of the respondents shifted to higher in high category (105) or medium category (80) and only few (11) were left in the low category of risk preference. It indicates that maximum of them (53.57%) acquired high level of risk preference which was followed by medium (40.81%) and low (5.61%) of level of risk preference.

Further reflection of the table reveals that average score of 19.11 was found during pre-training which has increased to 31.59 during post-training period with an average difference of 12.47. These figures reveals the fact that there was an increase in the risk taking ability of the respondents after being exposed to scientific beekeeping training.

The data in the table-3 reveals that when the selected psycho-economic variables put to t-test, they showed highly significant difference between 'pre' and 'post' training. The result related with the table clearly shows that the mean value of economic motivation before training and after training were 2.9435 and 4.2998 respectively and its t-value (17.661) was highly significant



showing in conformity with the result of Singh (2005). With regards to the change proneness the mean values obtained were 35.0765 and 51.4694 respectively along with t-value of 12.071 which is highly significant, mean value of credit orientation found were 21.9235 and 31.8418, respectively with t-value 23.695 which was again highly significant similar findings were observed by Singh (2014) and risk preference showed the mean value 19.1122 and 31.5918 and the t-value of 28.170 which is again significant at 0.01 level of significance similar finding were also reported by Singh (2005).

It is evident from the table-4 that during pre-training session, out of nine selected variables (except for change proneness which was positive and statistically non-significant), eight were found to be statistically significant whereas during post – training session all nine variables were statistically significant with the level of knowledge of honey production technology.

It could be inferred from the findings presented in the table, the trainees with higher education, belonging to higher caste, larger land holding, greater economic motivation, credit orientation and risk preference were found to have more knowledge regarding honey production technology.

However, age and size of family were found to be negatively and significantly correlated. It was inferred that younger aged and having smaller size of family were expected to have more knowledge regarding the technology as compared to older aged and member of large sized family and vice-versa. So far as the change proneness was concerned, its increase/decrease had no effect on knowledge of the trainees during pre – training session.

Further, age variable had negative and significant correlation with the knowledge of the trainees which was in conformity with the result of Kumari (2005) and Singh (2005), a significant and positive correlation was found at 1 percent level of significance between education and knowledge of the trainees Indu (2002), Rema *et al.*, (2004), Kumari (2005) and Kumari. A.R. *et al.*, (2015) in which they stated that education of the respondents was found to have positive and significant relationship with their knowledge regarding the technology, caste was found to be positive and significant with the knowledge of the trainees at 1 percent level of significance. Similar findings were reported by Kumari (2005) in which they found that there was a positive and significant relationship between caste and level of knowledge of the respondents.

A significant but negative association was found between size of family and knowledge of the trainees at 5 percent level of significance Awasthi *et al.*, (2000).

The findings of land holding was positive and significant at 1 percent level of significance which was in palatable with the findings of Singh (2005) and Kumari. A.R. *et al.*, (2015) also reported that size of holding was positively and significantly correlated at 1 percent level of significance with the level of knowledge.

Economic motivation found to be positively and significantly correlated at 1 percent level of significance with knowledge of the trainees which was in conformity with the findings of Kumari. A.R. *et al.*, (2015), Change proneness, Credit orientation and risk preference were found to be positively and significantly correlated at 1 percent level of significance with knowledge of the trainees. The findings were in conformity with the findings of Singh (2005).



The study revealed that the training plays a vital role in enhancing knowledge of the trainees. During pre-training session trainee's socio-personal and psycho-economic characteristics of beekeepers were not up to the mark as they were raw hands but after being exposed to the scientific beekeeping training, their psycho-economic characteristics has increased considerably leading to increasing the socio – economic status of trainees.

### **References**

- Awasthi, H.K.; Singh, P.R. and Sharma, R.N. (2000). Knowledge and attitude of dairy farmers towards improved dairy practices. *Mah. J. of Extn. Edn.* XIX: 290-292.
- Indu (2002). Effectiveness of apicultural education capsule in training rural women. An M.Sc. Thesis (Unpub.), Dept. of Extn. Edn, R.A.U., Pusa, Bihar.
- Kumari, A.R. (2005). Impact of apicultural training programme on rural women. An M.Sc. (H.Sc.) Thesis, R.A.U., Pusa, Bihar.
- Kumari. A.R. *et al.*, (2015). Assessing the Effectiveness of Apiculture Training Programme on Rural Women, *Indian Res. J. Ext. Edu.* 15 (4), Special Issue, November, 2015
- Rema, R.; Philip, H. and Muthuraman, M. (2004). Influence of profile characteristics of beekeepers on knowledge and adoption of Indigenous Beekeeping Practices. *Journl of Extn. Edn.* 15(1): 3603-3604.
- Singh, R. (2005). Effectiveness of entrepreneurial development training on behavioural component of entrepreneurs. Ph.D. Thesis, Dept. of Extn. Edn, R.A.U., Pusa, Bihar.