Knowledge Level of ATMA Beneficiaries about Bee-keeping

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ABSTRACT

The scientific study of technology transfer system is essential for making the future programme more effective. Keeping this in view the present study was under taken to study the level of knowledge of beneficiaries about bee-keeping and to study the association between knowledge about bee-keeping and some selected socio-personal characteristics and sources of information utilized by the beneficiaries. Due to ATMA interventions, majority of the beneficiaries (42.22%) had medium knowledge about bee-keeping. The study indicated that the innovations in technology dissemination component of national agriculture technology project, a World Bank assisted project have established its existence and left an imprint in the study area.

Key Words : Knowledge; Training; Technology transfer system;

*T*he concept of ATMA was introduced in 1999 as an autonomous organization under the National Agricultural Technology Project (NATP) by providing flexible working environment with an objective of integrating research, extension and all other stake holders at the district level to support the farmer's needs and interest through an integrated approach of strategic plan. ATMA is a society of Key stake holders involved in agricultural activities for sustainable agricultural development in the district. Involvement of farmers can be achieved at the village level through farmer's interest groups (FIGS) at the block level as a member of farmer advisory committee (FAC) and at district level as the member of ATMA Governing Board. As a registered society ATMA is responsible for technology dissemination at the district level. The concept of ATMA envisages paradigm shift from "top down" to "bottom up" in planning and implementation of agriculture development programmes. The scientific study of technology transfer system is essential for making the future programme more effective. Keeping this in view the present study was under taken to study the level of knowledge of beneficiaries about bee-keeping and to study the association between knowledge about bee-keeping and some selected socio-personal characteristics and sources of information utilized by the beneficiaries.

METHODOLOGY

ATMA project was running in 4 districts of Bihar and Madhubani district was purposively selected for study purpose. There were 21 blocks in Madhubani district. Out of which 4 blocks namely Madhubani, Pandaul, Rajnagar and Khajauli were selected randomly for the study. The total number of villages in Madhubani district was 1116. Out of these 80, 75, 68 and 72 villages existed in Madhubani, Pandaul, Khajauli and Rajnagar blocks respectively. Out of these villages, 10% of the total numbers of villages were selected (30 villages). The total number of beneficiaries were 245, 240, 230 and 235 of Madhubani, pandaul, Khajauli and Rajnagar, respectively. Out of these, 190 beneficiaries i.e., 20% were finally selected from each village by Random sampling technique.

The schedule consisted of 18 items from different aspects of bee-keeping practices like species, characteristics of species, life-cycle, food, honey extraction and bee protection etc. Number of items selected from different aspects of vine-betel practices depended on the weightage to be given to the different aspects of cultivation in light agro-climatic condition of the study area. The scoring of each item was done on an index with three-point continuum (correct, partially correct and not correct or not known) based on the degree of correctness of the knowledge held. In this method a score of 2 was assigned to every correct answers, 1 to every partially correct answers and 0 to lack of any pertinent knowledge. Thus, in this schedule every individual respondent was capable of obtaining a knowledge score between 36 to 0 for bee-keeping based on their responses. Total score of the individual was arrived at by adding the scores obtained on the different items. These total scores were later converted to a

standardized score of knowledge index with the formulae as under, guide lines in this regard were received from different adoption index or adoption quotient.

$$\text{Knowledge index} = \frac{\text{Obtained score}}{\text{Highest obtainable score}} \times 100$$
(Bee-keeping practices)

RESULTS AND DISCUSSION

Level of knowledge of beneficiaries about bee-keeping: Out of 190 beneficiaries only 45 respondents accepted bee-keeping as a new profession. The level of knowledge about bee-keeping was ascertained by the procedure explained in chapter of methodology. The distribution of beneficiaries, on the basis of the differential knowledge possessed by them was calculated by working out mean and S.D. The result is presented in the table 1.

Table 1. Frequency distribution of ATMA beneficiaries with respect to their knowledge about bee-keeping

S.No.	Category	Frequency	%
1.	Low (Below $\overline{X}$ – S.D.) (upto 2)	08	17.77
2.	Medium ($\overline{X}$ – S.D.) (3 to 14)	19	42.22
3	High (above $\overline{X}$ +S.D.) (15 and above)	18	40.00

Mean = 8.73; SD = 6.70; N = 45

It is clear from the table that the maximum number of beneficiaries had medium (42.22%) level of knowledge followed by high level of knowledge (40%) and low level of knowledge (17.77%). As a new profession first time bee-keeping was introduced by ATMA in the study area. As it was not a traditional profession in the area; this might be the reason for having medium level of knowledge possessed by the respondents.

*Association between knowledge and some selected socio-personal characteristics and sources of information utilized by beneficiaries :*The relationship between selected socio-personal, sources of information utilized and the dependent variable i.e.; knowledge level about bee-keeping was tested with the help of correlation. The results have been presented in Table 2.

It is evident from the Table 2 that age, education, family type, family size, social participation and sources of information utilized were positively and significantly related with the knowledge about bee-keeping practices.

The above observations have shown that the selected variables significantly exerted their influence

on knowledge about bee-keeping. Hence, the result does conform the hypothesis that there was relationship between age, education, family type, family size, social participation and sources of information utilized and knowledge level of beneficiaries about bee-keeping.

Table 2. Relationship among the selected socio-personal, sources of information utilized with level of knowledge about bee-keeping

S.N.	Variables	Correlation 'r' values
1	Age (X_1)	0.1579*
2	Caste (X_2)	0.0256
3	Occupation (X_3)	0.0351
4.	Education (X_4)	0.2561**
5.	Size of land holding (X_5)	0.0125
6.	Farm Power (X_6)	0.0296
7.	Family type (X_7)	0.1573*
8.	Family size (X_8)	0.1832*
9.	Social Participation (X_9)	0.2569**
10.	Sources of information utilized (X_{10})	0.3576**

*Significant at 0.05 level of probability
**Significant at 0.01 level of probability.

On the other hand, remaining independent variables *viz*; caste, occupation, size of land holding and farm power were not significantly related with the knowledge level of beneficiaries. It means that these variables did not exert their influence significantly on the knowledge level of beneficiaries. Hence, the result conformed the alternate hypothesis.

In this, all the independent variables were fitted with the knowledge level of beneficiaries in the multiple regression equation. The findings have been incorporated in table 3.

Table 3. Multiple regression analysis of independent variables with knowledge level of beneficiaries about bee-keeping

S No.	Variables	b-value	S.E. of b values	t-values
1	Age (X_1)	2.919428	1.007046	2.899**
2	Caste (X_2)	0.074101	0.048242	1.536
3	Occupation (X_3)	0.071512	0.493186	0.145
4	Education (X_4)	2.359623	1.101598	2.142*
5	Size of land holding (X_5)	0.563212	0.515761	1.092
6	Farm Power (X_6)	0.123502	0.389596	0.317
7	Family Type (X_7)	1.983505	0.685622	2.893**
8	Family Size (X_8)	1.975030	0.760797	2.596**
9	Social participation (X_9)	0.532960	0.635232	0.83
10	Sources of information utilized (X_{10})	3.503920	1.358108	2.580**

* Significant at 0.05 level of probability;
** Significant at 0.01 level of probability;
   Multiple regression
$(R^2) = 0.7623;$ F value = 6.75** d.f (10, 34);
Intercept constant (a) = 35.01.

It is evident from the above table 3 that the ten independent variables taken together explained to the extent of 76.23 per cent of the variation in knowledge about bee-keeping of beneficiaries. The respective 'f' value (significant at 1 percent level) at (10, 34) degrees of freedom was 6.75. Thus, the results implied that all the variables would account for significant amount of variation in the knowledge level of beneficiaries about bee-keeping. The maximum and the minimum contributions were made by sources of information utilized and occupation variables respectively.

From the above observation, 't' test of significance indicated that the co-efficient of regression (b-values) were found to be significant for age (X_1), education (X_4), family type (X_7), family size (X_8) and sources of information utilized (X_{10}) which explained that utilization of these parameters with full certainty in making sound strategies of development plan be highly effective. It can be therefore concluded that these variables had definite role to play in affecting level of knowledge about bee-keeping. The remaining variables under study namely caste, occupation, size of land holding, farm power and social participation could not emerged as significant predictors.

The size of land holding is not an important factor as far as the knowledge of beneficiaries about mushroom practices is concerned. This may be due to the fact that size of land holding in farming by the beneficiaries under study might not have given so much to importance.

CONCLUSION

The study indicated that the level of knowledge of ATMA beneficiaries about bee-keeping and significant association between knowledge about bee-keeping and age, education, family type, family size and sources of information utilized. ATMA, component of national agriculture technology project, a world bank assisted project have established its existence and left an imprint in the area.

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