

A Comparative Study on Apiculture Technology among Trained and Untrained Women

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Abstract :- The present study aimed to assess the 'level of skill' of rural women about scientific apiculture practices and to find the relationship of different characteristics of women with their level of apiculture practice skill. Total 100 respondents were selected from Pusa block of Samastipur district. Seven villages were selected purposively in which 50 trained who have received training from Apicultural Research Training Centre , RAU Pusa to serve as experimental group and equal number of untrained women who have not undergone any skill oriented apiculture training programme were also selected randomly to serve as control group. The study indicated that the trained women differed significantly over the untrained women in respect of their improvement in skill. The proportion of trained women was more in 'high level of skill' of improved apiculture practices in comparison to the untrained women. Multiple regression analysis revealed that three characteristics i.e. caste family education and economic motivation contributed positively and significantly towards improvement in level of skill of recommended technologies among trained women. Hence, it can be said that training has positive impact on apiculture practices of women beekeepers.

Keywords – Apiculture, Training and Women

I. INTRODUCTION

Bihar is the third most populous state in India with 8.1 percent of the country's population. Poverty is heavily concentrated amongst the landless or near landless agricultural households, with these two vulnerable groups constituting 70 percent of the households in Bihar. Mahatma Gandhi realized the importance of beekeeping industry and included it in his rural development programme as Apiculture requires negligible land for growth. Women can play vital and successful role in generating income through apiculture technology. The women in rural areas have to be empowered by imparting knowledge and skill regarding modern techniques in bee keeping. They do these activities as member of the family or as workers over and above the household responsibilities.

The present study aimed to assess the level of skill of rural women about scientific apicultural practices and also to study the relationship of different characteristics of women with their level of skill in apiculture technologies.

METHODOLOGY

The present study was carried out at Pusa Block of Samastipur district in Bihar for five years during 1999-2004. Seven villages of Pusa block were selected purposively in which 50 trained who have received training from Apicultural Research Training Centre , RAU Pusa to serve as experimental group and equal number of untrained women who have not undergone any skill oriented apiculture training programme were also selected randomly to serve as control group. The 50 trained and 50 untrained women selected randomly. Thus a total 100 respondents were interviewed for this study. Fourteen independent variables were selected. Data were collected with the help of structured interview schedule and analyzed through frequency, percentage, t- test correlation and multiple regressions.

II. RESULTS AND DISCUSSION

Table 1. Distribution of the respondents for skill in Apiculture Technology

Level of skill	Women's category					
	Trained (n=50)		Untrained (n=50)		Total (n=100)	
	Frequency	%	Frequency	%	Frequency	%
Low (1-39)	0	0.0	1	2.0	1	1.0
Medium (40-89)	1	2.0	49	98.0	50	50.0
High (90 to above)	49	98.0	0	0.0	49	49.0

The data in Table I indicated that a highest percentage of (98.0%) trained Women belonged to high level of skill followed by 2.0 percent of women fell under medium skill category and not even a single women having low level of skill whereas in case of untrained women majority (98.0%) had medium level of skill followed by 2.0 percent having low skill level and not even a single women having high level of skill.

Table 2. Comparison of skill among trained and untrained women in apiculture technology

	Mean scores		t-value
	Trained (n = 50)	Untrained (n=50)	
Level of skill	102.42	60.36	35.9099**

**Significant at 1 per cent of probability *Significant at 5 per cent of probability

It was observed from Table 2 that trained women had super ceded than untrained women in their skill level. This implied that training had a significant effect on the skill level of the respondents with respect of improved apiculture practices. The computed t – value (35.90) is highly significant. It may be concluded that apiculture training had fruitful impact and helped the beekeepers to improve their level of skill.

Table 3. Correlation of selected characteristics of women with level of skill

Sl. No.	Variables	Correlation coefficient (r)	
		Trained	Untrained
1.	Age	-0.4002**	-0.3240*
2.	Caste	0.6065**	0.3010*
3.	Personal Education	0.4352**	0.3182*
4.	Family education	0.5188**	0.2816*
5.	Occupation	-0.0305 ^{NS}	0.0610 ^{NS}
6.	Family size	0.2130 ^{NS}	-0.1246 ^{NS}
7.	Family type	0.0703 ^{NS}	-0.0281 ^{NS}
8.	Size of land holding	-0.0611 ^{NS}	0.0897 ^{NS}
9.	Annual income	0.2813**	0.3371*
10.	Type of house	0.0037 ^{NS}	0.0678 ^{NS}
11.	Household material possession	-0.1307 ^{NS}	0.1028 ^{NS}
12.	Social participation	-0.0539	-0.1370
13.	Cosmopolitaness	0.4740**	0.3361
14.	Economic motivation	0.4536**	0.3122

**Significant at 1 per cent of probability

*Significant at 5 per cent of probability

It may be seen from table 3 that caste, education, family education, annual income, cosmopolitaness and economic motivation of trained and untrained women were positive and significant relationship with the skill of apiculture practices of I and 5 per cent level of significance. However, age was negatively but significantly correlated with level of skill of trained and untrained women. The remaining variables were non – significant with level of skill of trained and untrained women.

Table 4. Relative contributions of independent variables towards levels of skill (dependent variables) of trained rural women

Independent variables	Regression coefficient	Standard error (SE)	Standard regression coefficient (SRC)	T-value	R ²	F-Value	Rank
Age (X ₁)	-0.1252	0.13667	-0.10268	-0.92 ^{NS}			XII
Caste (X ₂)	3.5922	1.20894	0.43876	2.97*			III
Personal Education (X ₃)	0.1295	0.88186	0.02154	0.15 ^{NS}			VII
Family education (X ₄)	3.2435	0.99901	0.41676	3.25*			II
Occupation (X ₅)	1.6436	1.06802	0.26544	1.54 ^{NS}			IV
Family size (X ₆)	2.4389	1.21789	0.23373	2.00 ^{NS}			V
Family type (X ₇)	-0.4006	1.04894	-0.03972	-0.38 ^{NS}	0.84533	6.26	XII
Size of land holding (X ₈)	-1.0907	0.85765	-0.16113	-1.27 ^{NS}			XI
Annual income (X ₉)	-1.7759	1.21036	-0.27973	-1.47 ^{NS}			X
Type of house (X ₁₀)	-0.1938	0.84340	-0.02254	-0.23 ^{NS}			XIV
Household material possession (X ₁₁)	-3.7629	1.91831	-0.28297	-1.96 ^{NS}			IX
Social participation (X ₁₂)	1.3410	1.66244	0.08066	0.81 ^{NS}			VI
Cosmopolitaness (X ₁₃)	0.0083	0.22613	0.00500	0.04 ^{NS}			VIII
Economic motivation (X ₁₄)	1.1284	0.34362	0.38980	3.28*			I

*significant at 5% level of probability, NS- Non - Significant

It was evident from table 4 that out of fourteen selected independent variables fitted multiple regression analysis, three characteristics i.e. caste family education and economic motivation contributed positively and significantly towards improvement in level of skill of recommended technologies. The contribution of remaining eleven variables i.e. age, personal education, occupation, family size, family type, size of land holding annual income, house type, household material possession, social participation and cosmopolitaness were not significant. This finding is in agreement with the finding of Jamal (1984), Mandal (1995) and Thakar and Patel (1998) who reported that caste was significantly and positively correlated with level of skill and Awasthi *et.al.*(2000) and Gogoia and Phukan (2000) revealed that economic motivation was significantly and positively related to level of skill.

As regard the magnitude of the dependence of dependent variable (level of skill) partial regression coefficient b_i (I=1, 2, 3.....14) were worked out and tabulated in Table 4. The coefficient of determination $R^2 = 0.84533$ indicated that up to 84.53 percent variation in the level of skill was explained by all the fourteen variables taken together. The regression coefficient of y (level of skill) upon caste $b_2=3.5922$, family education $b_{14}= 3.2455$ and economic motivation $b_4=1.1284$ was significant. If the economic motivation in improved by one unit their level of skill score will be improved at the rate of 3.28.

Table 5. Relative contribution of independent variables towards level of skill (dependent variables) of untrained rural women

Independent variables	Regression coefficient	Standard error (SE)	Standard regression coefficient (SRC)	T-value	R ²	F-Value	Rank
Age (X ₁)	-0.2043	0.12841	-0.26600	-1.59 ^{NS}			VIII
Caste (X ₂)	0.6149	1.48068	0.08262	0.42 ^{NS}			VI
Personal Education (X ₃)	-0.4272	1.33776	-0.06550	-0.32 ^{NS}			XII

Family education (X ₄)	1.0944	1.60397	0.14092	0.68 ^{NS}			III
Occupation (X ₅)	-0.4638	1.11562	-0.09222	-0.42 ^{NS}			XI
Family size (X ₆)	-1.6025	2.16485	-0.14720	-0.74 ^{NS}			IX
Family type (X ₇)	0.9570	2.21145	0.07806	0.43 ^{NS}			V
Size of land holding (X ₈)	-0.8720	1.66875	-0.10164	-0.52 ^{NS}	0.61122	2.49	X
Annual income (X ₉)	2.2327	1.57222	0.32235	1.42 ^{NS}			I
Type of house (X ₁₀)	0.1669	1.19438	0.02414	0.14 ^{NS}			VII
Household material possession (X ₁₁)	-0.4153	1.81560	-0.05174	-0.23 ^{NS}			XIII
Social participation (X ₁₂)	-3.4914	2.97160	-0.18651	-0.17 ^{NS}			XIV
Cosmopolitaness (X ₁₃)	0.2607	0.39441	0.13828	0.66 ^{NS}			IV
Economic motivation (X ₁₄)	0.4934	0.35212	0.20907	1.40 ^{NS}			II

NS= Non - Significant

Table 5 indicated that out of fourteen variables under study, none of these variables contributed to improvement in level of skill among untrained women.

III. CONCLUSION

The present study concluded that the proportion of trained women was more in 'high level of skill' of improved apiculture practices in comparison to the untrained women. Multiple regression analysis revealed that three characteristics i.e. caste family education and economic motivation contributed positively and significantly towards improvement in level of skill of recommended technologies among trained women. Hence, it can be said that training has positive impact on apiculture practices of women beekeepers.

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