

SIGNIFICANCE OF HOMESTEAD TECHNOLOGIES OF RAJENDRA AGRICULTURAL UNIVERSITY (RAU) AS A MEANS OF LIVELIHOODS FOR RURAL WOMEN OF BIHAR

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Date of Receipt : 27.04.2017

Date of Acceptance :02.06.2017

ABSTRACT

Women have been the deprived and under privileged members of the society. According to the census 2011 (Provisional Population Totals- India), it was estimated that 69.08 per cent of women population of India lived in rural areas. In case of Bihar State, it is 88.85 per cent. The overall literacy rate of female population in India is 65.46 per cent whereas, it is 46.40 per cent in case of Bihar (Census of India, 2011). Poor socio-economic conditions is the reason that they are not able to derive maximum benefits from training activities and developmental programs. This itself suggests the quantum of attention and measure that need to be taken by the State Government through its various functionaries at different levels, so that a majority of the female population of the state is not neglected. Data were collected in the year 2013 with the help of a structured interview schedule comprising of eighteen socio-personal, economic, communicational, psychological and situational variables to explicit the profile characteristics of rural women of Bihar and to assess the significance of selected nine homestead technologies of Rajendra Agricultural University (RAU) as a means of their livelihoods. The findings of the study showed that the respondents had medium level of overall personal, socio-economic, communicational, psychological and situational profile characteristics. Vermicompost, apiculture and mushroom production technologies were the most sought after enterprises as a means of livelihood for rural women of Bihar.

Women are the world caretakers of home and perform a variety of tasks. No nation can think of its full development by ignoring the welfare of women. Nearly 70 per cent of Indian rural women are involved in agriculture and are responsible for 60-80 percent of food production. They play a major role in animal husbandry, horticulture and poultry which are their main sources of income. They are also more involved in small-scale enterprises. These include fruit & vegetable preservation, tailoring, papad and badi making, basket, broom, rope making, tasar silk cocoon rearing, lac cultivation, oil extraction, bamboo works, etc.

Rural women's education and extension contacts enable them to acquire access and avail new information and evaluate benefits of alternative sources of economically useful information. Her enlightenment will change the face of rural India. It is a pre-requisite to study the profile characteristics of rural women before designing and implementing any program so that it can be tailored and made apt according to their socio-economic background. The data will help policy makers to frame strategies and to formulate developmental programs for them.

Keeping these facts in view the study on "Significance of Homestead Technologies of Rajendra Agricultural University (RAU) as a Means of livelihoods for Rural Women of Bihar" was conducted with the following objectives-

1. To study the profile characteristics of rural women
2. To assess significance of homestead technologies of RAU as a means of livelihood of the respondents.

Grewal *et al* (1993) noticed that 38 per cent of peasant women were illiterates and a majority of them were wives of small and marginal farmers. They obtained information on different technologies from their family members, friends followed by farmers and neighbours. Only 2.0 per cent of women used literature as a source of information.

Roy (2005) found that majority of the respondents were educated up to middle school (21.66%) followed by primary school education (16.66%), can read only (15.41%), high school (12.9%), can read & write (12.5%), illiterate (9.16%), graduation & post graduation (7.08%) and intermediate (4.63%).

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Rani and Rao (2007) inferred that Association of Lady Entrepreneurs of Andhra Pradesh (ALEAP) provided counselling and incubation, special incentives, training facilities for prospective women entrepreneurs and also provided strategic tie-ups with national and international agencies including ZDH, a German Federation to avail modern training facilities offered by those agencies.

MATERIAL AND METHODS

An interview was scheduled to elicit information on eighteen independent variables viz. age, education, family size, occupation, family income, family support, information source utilization, economic motivation, scientific orientation, innovativeness, perceived attributes of homestead technologies, value orientation, risk orientation, input availability, rural customs, market intelligence, institutional support and socio-capital aspects. Data were collected with the help of structured interview schedule and also by personally interview of 225 rural women who were exposed to the selected nine homestead technologies of Rajendra Agricultural University, Pusa, Bihar viz. fruit & vegetable preservation, stitching & embroidery, value addition to garments, arts & craft making, value added products from cereals & pulses, mushroom production, value added mushroom products, vermicomposting and apiculture.

Psychological and situational variables were studied by framing positive and negative statements on a three point continuum by assigning score of 3, 2 and 1 for positive and vice-versa for negative statements. Respondents were categorised as low, medium and high based on the mean and standard deviation. Data were also collected to elicit information on number of women engaged in the selected homestead technologies as entrepreneurs and the net income realised from each of these enterprises.

RESULTS AND DISCUSSION

1. Majority (70.67 %) of the respondents were young in age, followed by middle aged (27.56%) and old aged (1.77%) respectively. Rural women who were exposed to the selected homestead technologies only constituted the respondents for the study. Hence, it can be inferred that young women were more exposed to such technologies and that they had more interest and enthusiasm in gaining information about such technologies.
2. Majority (58.22%) of the respondents had small family size, followed by medium (36.89 %), very large (2.67%) and large (2.22%) family size. It signifies that there is a growing awareness about small family size norm even in rural areas and also there is increase in number of nuclear families compared to joint family system.

Table 1. Distribution of respondents based on their personal profile (N=225)

Socio-personal variables	Category	Frequency (f)	Percentage (%)
Age	Young	159	70.66
	Middle aged	62	27.56
	Old	4	1.78
Family size	Small (2-6)	131	58.22
	Medium (7 to 11)	83	36.89
	Large (12 to 16)	5	2.22
	Very large (17 to 22)	6	2.67
No. of occupations	0-1	54	24.00
	2-3	139	61.78
	4-5	32	14.22

3. Majority (61.78%) of the respondents had 2-3 occupations followed with 0-1 (24.00%) occupations and 4-5 (14.22%) occupation.
4. Majority (29.33%) of the respondents had high school level of education, followed by (24.00%) with no schooling (illiterate). The percentage of respondents for middle school, functional literacy, college education and primary school education were 21.33, 15.11, 8.45 and 1.78 percentages respectively. The result signifies that the educational level of the women was quite good and that it is getting better in rural areas. (Fig.1).
5. About 34.67% of the respondents had horticulture (fruits & vegetable) as their main occupation followed by agriculture. Wage worker/ labourer was the subsidiary occupation for 47.11% of the respondents (fig.2).
6. Majority (75.56 %) of the respondents had medium family income, followed by high (13.33 %) and low income (11.11 %). There were nearly 3-4 earning member in most of the respondents families. They were involved in various occupations like service, agriculture, caste occupation and wage worker etc. to meet the monthly family expenditure.

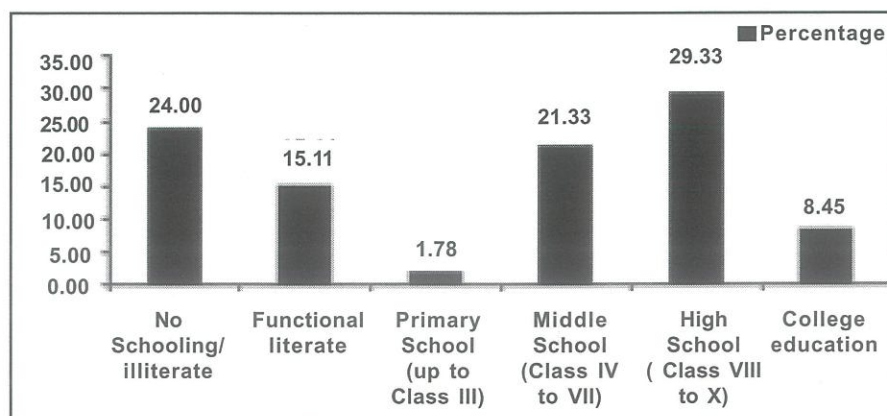


Fig 1. Distribution of respondents based on education.

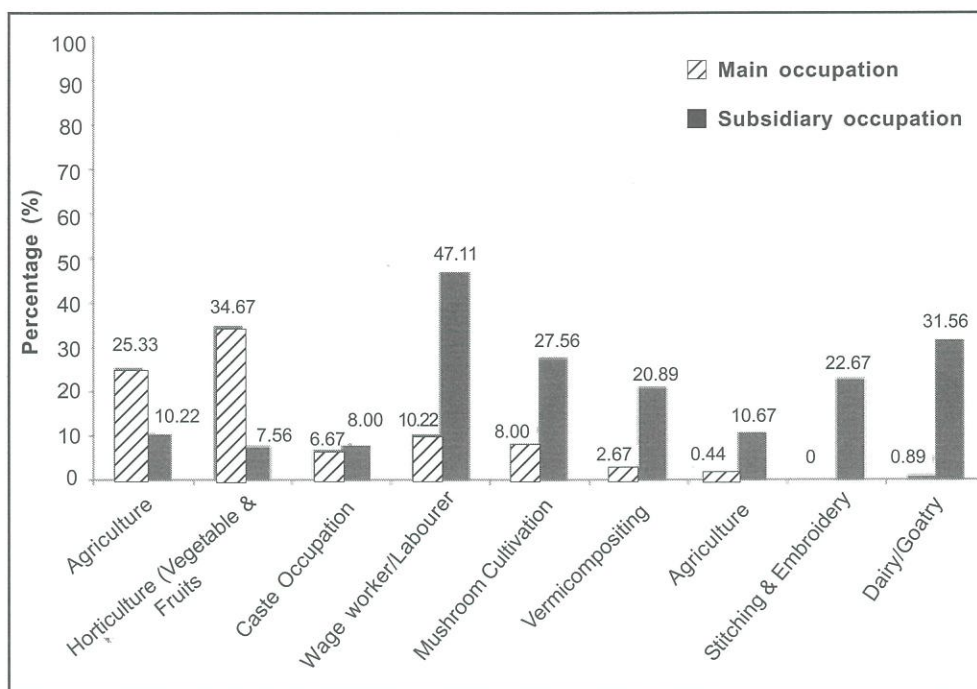


Fig 2. Distribution of respondents based on occupation

Table 2. Distribution of respondents based on extent of family support from various personnel

(N=225)

Family Support	Husband		Parents		In-laws		Relatives		Friends		Neighbours		Any other (children etc.)	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Greater extent	179	79.56	114	50.67	105	46.67	62	27.56	64	28.45	84	37.33	47	20.89
Considerable extent	42	18.66	66	29.33	70	31.11	55	24.44	48	21.33	121	53.78	19	8.44
Upto a little extent	2	0.89	20	8.89	31	13.78	86	38.22	59	26.22	17	7.56	8	3.56
Nil	2	0.89	25	11.11	19	8.44	22	9.78	54	24.00	3	1.33	151	67.11
Total	225	100.0	225	100.00	225	100.0	225	100.0	225	100.0	225	100.0	225	100.0

Note: f= frequency %= percentage

7. Majority (55.56 %) of the respondents family support was medium followed by high (28.0 %) and low (16.44 %).
 8. Majority of the respondents had greater support from their husbands (79.5%), followed by parents (50.67%), in-laws (46.67%) and friends (28.45%). It suggests that the family members of the respondents were very supportive and encouraging their spouse, daughters or daughter's in-laws to gain information or to attend training programs so that they could adopt new and improved homestead technologies for better family life.
 9. Majority (78.67%) of the respondents utilized information sources to a medium extent for gaining knowledge on the selected homestead technologies followed by higher (20.0%) and lower extent (1.33%).
 10. Majority (58.22%) of the respondents possessed medium level of economic motivation, followed by high (24.0%) and low (17.78%) levels of economic motivation. The reason might be due to greater family support extended to the respondents by their family members which might have motivated them to perceive the homestead technologies from economic point of view.
 11. Majority (68.0 %) of the respondents had medium level of scientific orientation followed by low (18.67 %) and high (13.33 %) level of scientific orientation. It may be attributed to the fact that almost 60 per cent of the respondents were educated from middle school to college level and 70.67% of them were of young age.
 12. Majority of the respondents (69.34 %) had medium level of innovativeness. About 17.33 per cent of them had low level while 13.33 per cent had high level of innovativeness. This is because they possess medium level of scientific orientation. Young people are always more innovative than middle and old age people and it may also be an important factor contributing to their innovativeness as majority (70.67%) of them were of young aged.
 13. Majority (68.45 %) of the respondents had medium level of perception on attributes of homestead technologies followed by high (17.33%) and low (14.22 %) level of perception.
- This might have been influenced by their attitude towards homestead technologies of RAU which showed that majority of them had favourable attitude towards the technologies.
14. Majority (69.78%) of the respondents had medium level of value orientation. The rest of the respondents were equally distributed under low (15.11%) and high (15.11%) categories of value orientation. It signifies that rural women still place high importance to their values, morals and these values might have influenced their knowledge acquisition behaviour and adoption of homestead technologies.
 15. Majority (65.78%) of the respondents had medium level of risk orientation, followed by high (20.0%) and low (14.22%) levels of risk orientation. It highlights the fact that rural women were less inclined to take risk in running an enterprise or entering into a new enterprise. It might be due to the fact that majority (75.56%) of them had medium level of family income that somehow supports their family needs and had the fear of facing financial scarcity.
 16. Majority (59.11%) of the respondents had medium level of access to inputs, followed by low (25.33%) and high (15.56%) level of access to inputs.
 17. Majority (55.56%) of the respondents had access to inputs for their enterprises outside the village (more than 5 km) followed by 33.33 per cent outside the village (less than 5 km) and 11.11 per cent within the village.
 18. For majority (44.00%) of the respondents, the inputs needed to adopt the homestead technologies or to run it as an enterprise was adequately met followed by 29.78 per cent and 26.22 per cent of the respondents for whom the inputs needed were inadequate and not available, respectively.
 19. For majority (38.67%) of the respondents, the inputs were made available after a week's time (> 7 days), followed by (34.22%) immediately available and (27.11%) available within a week's time (1-7 days). It can be inferred from the results that the inputs are available in the approachable vicinity of the respondent's home but were not made available immediately to the respondents.

Table 3. Profile characteristics of the respondents**(N=225)**

Variables	Category		
	Low	Medium	High
Family income	25 (11.11)	170 (75.56)	30 (13.33)
Family support	37(16.44)	125 (55.56)	63(28.0)
Information source utilization	3 (1.33)	177(78.67)	45 (20.0)
Economic motivation	40(17.78)	131(58.22)	54(24.00)
Scientific orientation	42(18.67)	153(68.00)	30(13.33)
Innovativeness	39(17.33)	156(69.34)	30(13.33)
Perceived attributes of homestead technologies	32(14.22)	154(68.45)	39(17.33)
Value orientation	34(15.11)	157(69.78)	34(15.11)
Risk orientation	32(14.22)	148(65.78)	45(20.00)
Input availability	57(25.33)	133(59.11)	35(15.56)
Rural customs	31(13.78)	164(72.89)	30(13.33)
Market intelligence	53(23.56)	135(60.00)	37(16.44)
Institutional support	32(14.22)	157(69.78)	36(16.00)
Socio-capital aspects	30(13.33)	167(74.22)	28(12.45)

20. Majority (72.89%) of the respondents faced rural customs to a medium extent followed by low (13.78%) and high (13.33%) categories. This suggests that there was a shift in rural customs in the selected locale from a rigid, traditional and conservative society to a flexible and progressive society. There was betterment in the position of women in rural society and they were allowed to enter into entrepreneurial activities.
21. Majority (60%) of the respondents had medium level of market intelligence, followed by low (23.56%) and high (16.44%) level of market intelligence. It infers that the respondents had adequate level of market intelligence which is one of the pre-requisite to become a successful entrepreneur.
22. Majority (69.78%) of the respondents had medium level of institutional support, followed by high (16.0%) and low (14.22%) levels. The study showed that there was appreciable extent of technical support but poor financial and marketing support which the respondents expect from such institutions.

23. Majority (74.22%) of the respondents had medium level of socio-capital aspects, followed by low (13.33%) and high (12.44%) level of socio-capital aspects. It can be inferred from the data that class and caste system in rural areas are becoming insignificant with the changing time.

It can be inferred from Table (5) that majority (53.33%) of the respondents were entrepreneurs in vermicompost making followed by stitching & embroidery (47.11%), mushroom production (29.78%), value addition to cereals and pulses (11.11%), apiculture (9.78%), fruit & vegetable preservation (4.44%) and value added mushroom products (2.22%). None of the respondents had taken up value addition to garments and art & craft making technologies as an enterprise.

The data in fig. (3) shows that the income of the respondents ranged from Rs. 800 to 1000 per month in fruit & vegetable preservation enterprises, Rs. 150 to 1500 per month in stitching & embroidery enterprise, Rs. 500 to 1000 per month in value added cereals & pulses products enterprises, Rs. 1000 to

Table 4. Distribution of respondents based on distance, adequacy and timelines of inputs**(N=225)**

Distance	Frequency (f)	Percentage (%)
Within the village	25	11.11
Outside the village <5 km	75	33.33
Outside the village >5 km	125	55.56
Adequacy		
Adequate	99	44.00
Inadequate	59	26.22
Not available	67	29.78
Total	225	100.00
Timeliness		
Immediately	77	34.22
1-7 days	61	27.11
More than 7 days	87	38.67

Table 5. Distribution of respondents as entrepreneurs of homestead technology**(N=225)**

Homestead Technology	No. of entrepreneurs (n)	Percentage (%)	Minimum net return (Rs./ month)	Maximum net return (Rs./ month)	Mean net returns (Rs./ month)
Fruit & Vegetable preservation	10	4.44	800	1000	960
Stitching & embroidery	106	47.11	150	1500	325
Value addition to garments	0	0.0	-	-	-
Art & craft making	0	0.0	-	-	-
Value addition to cereals & pulses	25	11.11	500	1000	742
Mushroom production	67	29.78	1000	3000	1400
Value added mushroom products	5	2.22	500	1000	780
Vermicompost technology	120	53.33	1500	5000	2050
Apiculture	22	9.78	1000	3000	1850

3000 per month in mushroom production enterprise, Rs. 500 to 1000 per month in value added mushroom products enterprises, Rs. 1500 to 5000 per month in vermicompost enterprises and Rs. 1000 to 3000 per month in apiculture enterprise.

The mean net returns were highest in vermicompost enterprise followed by apiculture, mushroom, value added products from cereals and pulses in second, third and fourth positions respectively.

Upadhyay *et al.* (2011) in their study reported that the suggestions given by rural women to overcome the constraints include availability of loan facility and subsidy, post harvest storage facility, availability of quality spawn, marketing facility, supply of information at right times, technical guidance through skill training and reduced cost of mushroom spawn. The most important considerations are market net working, intensive training program for mushroom cultivation

and its value addition, formation of SHG for credit linkage and real empowerment of women.

CONCLUSION

It can be concluded from the results of the study that the respondents had medium level of overall personal, socio-economic, communicational, psychological and situational characteristics. Some of the homestead technologies have contributed significantly in improving the economic condition of rural women. There are still a number of homestead technologies that have not been taken up as enterprises by the rural women. Hence, there is a need to unearth reasons thereof and take appropriate remedial measures. As most of the enterprises can be carried out from their homes, there is more potential for these technologies in shaping the lives of rural women and making them economically empowered.

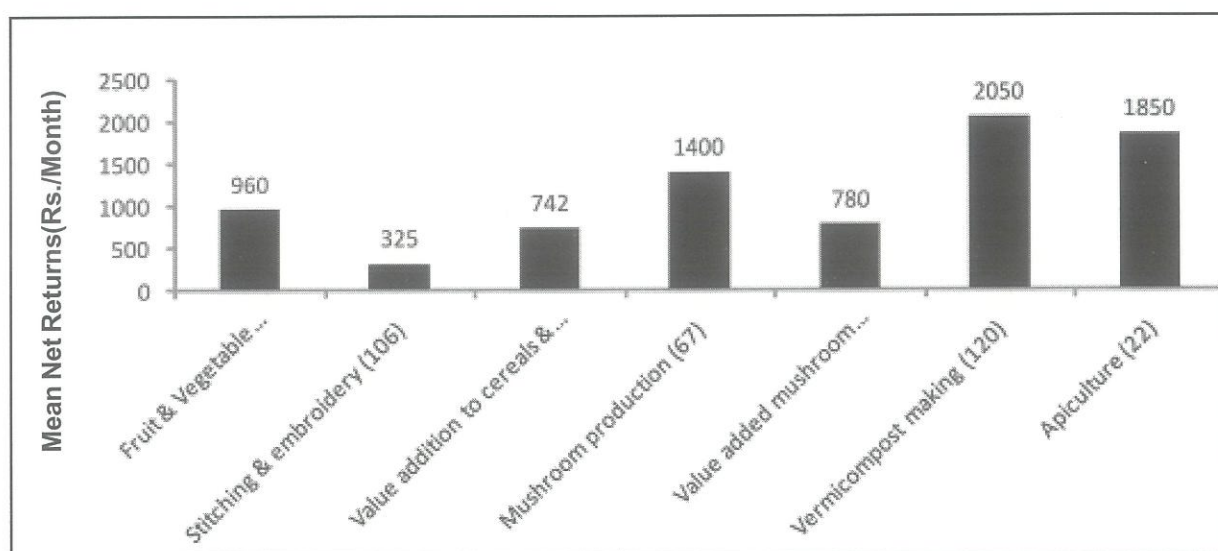


Fig. 3 Distribution of respondents as entrepreneurs of homestead technology

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