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## Socio-economic characteristics of farm women in *Bt.* cotton cultivation in Rajsamand district of Rajasthan

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### Abstract

The present research study focuses on the Personal, socio-economical, communication ability and psychological characteristics of farm women play a prominent role in extent of participation in *Bt.* cotton cultivation and decision making in Rajsamand district of Rajasthan. The present study was conducted in Rajsamand and Railmagra tehsils of Rajsamand district of Rajasthan. Total 120 respondents were randomly selected for data collection. The data were collected personally through structured interview schedule. The present study revealed that majority of the farm women belonged to middle age group (57.50%), mostly farm women live in joint family (75.83%), medium social participation (63.34%), medium utilization of source of information (51.67%), medium level of innovativeness (57.50%), medium self-confidence (56.67%) and medium market orientation (60.00%).

**Keywords:** Socio-economic, *Bt.* cotton cultivation, farm women

### Introduction

Women play a significant role in agriculture. In the world, about 70 per cent of the agricultural workers, 80 per cent of the food producers and 10 per cent of those who process basic food stuffs are women and they also undertake 60 to 90 per cent of the rural marketing, thus making up more than two-third of the work force in agricultural production. The scenario of agriculture has completely changed with change in time but from centuries one thing that didn't change is the visualization of women as key labour in this industry. Agriculture sector as a whole has developed and emerged immensely with the infusion of science and technology, but this latest emergence is not capable of plummeting the ignorance of women labour as an integral part of this industry. In female work force but fails to developing countries like India, agriculture continues to absorb and work force but fails to employ 2/3rd of the female give them recognition of employed labour. The Female labour force in developing nations still faces the oppressive status of being majorly responsible for family and household maintenance. Efforts were put to collate and categorize the states of identical behaviour in Indian agriculture by hierarchical clustering of economically active female in agriculture. Looking to the importance of farm women in agriculture. The present study entitled "Socio-Economic Characteristics of Farm Women in *Bt.* Cotton Cultivation" was undertaken in Rajsamand district of Rajasthan.

### Research Methodology

The present study was conducted in purposely selected Rajsamand district of Rajasthan. Rajsamand district consists of seven tehsils, out of which two tehsil namely Rajsamand and Railmagra tehsil were selected on the basis of the highest area and production under *Bt.* cotton cultivation and from these two tehsils 10 villages were selected on the basis of highest area and production of the *Bt.* cotton. From each selected village, 12 farm women were identified on the basis of random sampling technique. Thus, total 120 respondents were selected for present investigation. Data were collected through pre-structured interview schedule. Thereafter, data were analysed and results were interpreted, in the light of the present study.

### Results and Discussion

Personal, socio-economical, communication ability and psychological characteristics of farm women play a prominent role in extent of participation in *Bt.* cotton cultivation and decision making. Therefore, these profiles of farm women were compiled together and presented in following tables.

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**Selected personal profile characteristics of farm women in Bt. Cotton cultivation**

Twelve personal profiles characterises of farm women were selected for the study. The characteristics include age, education, type of family size, size of family, land holding,

social participation, extension participation, source of information, risk orientation; innovativeness, market orientation and self-confidence of these characteristics have been shown in table 1.

**Table 1:** Distribution of farm women according to their personal characteristics n=120

S. No.	Category	Rajsamand tehsil		Railmagra tehsil		Total	
		F	%	F	%	F	%
<b>Age basis</b>							
1.	Young age (<32)	9	15.00	16	26.67	25	20.83
2.	Middle age (33 to 57)	36	60.00	33	55.00	69	57.50
3.	Old age (>57)	15	25.00	11	18.33	26	21.67
<b>Education basis</b>							
1.	Illiterate	44	73.33	36	60.00	80	66.67
2.	Literate	16	26.67	24	40.00	40	33.33
<b>Type of family</b>							
1	Nuclear family	18	30.00	11	18.33	29	24.17
2	Joint family	42	70.00	49	81.67	91	75.83
<b>Size of family</b>							
1.	Small family (Up to 5)	18	30.00	20	33.33	38	31.67
2.	Large family (Above 5)	42	70.00	40	66.67	82	68.33
<b>Land holding</b>							
1.	Marginal farmers	15	25.00	10	16.67	25	20.83
2.	Small farmers	40	66.67	39	65.00	79	65.84
3.	Large farmers	5	8.33	11	18.33	16	13.33
4.	Total	60	100	60	100	120	100

f = frequency, % = per cent l.

**Age**

The age of the farm women considered as length of number of years in their life. The age categories of all farm women were made on the basis of their mean and standard deviation. Thus, three categories were formed *i.e.* young (<32 years), middle (33 to 57 years) and old (above 57). The distribution of respondents with respect to their age has been presented in Table 1.

Table 1 shows that majority of farm women belong to middle age group *i.e.* 32 to 57 years of age with 57.50 per cent of total sample. The farm women in old and young age group were found to be 21.67 per cent and 20.83 per cent, respectively.

The data in Table 1 also reveal that 36 (60.00%) respondents from Rajsamand tehsil and 33 (55.00%) from Railmagra tehsil belonged to middle age group, whereas, 9 (15.00%) and 16 (26.67%) farm women of Rajsamand and Railmagra tehsil belonged to young age group, respectively. Likewise, the representation of farm women of Rajsamand and Railmagra tehsils in old age group was 15 (25.00%) and 11 (18.33%), respectively. It is therefore, concluded that majority of farm women were of the age group between 32 to 57 years.

Finding are in agreement with Vaghasiya (2018) [6] who found that majority of (48.15%) of farm women belonged to middle age group followed by about one third (34.81%) and one sixth (17.04%) belonged to old and young age group, respectively.

**Education**

Formal education of farm women plays an important role in determining perception of power and which in turn reflect into decision making and in their role performance. The farm women were classified into two categories *viz.*, literate and illiterate. The frequencies were counted and converted into percentage for drawing results which are presented in Table 1. Table 1 shows that majority (66.67%) of farm women belonged to illiterate category and 33.33 per cent of farm

women belonged to literate category.

The data in Table 1 also reveal that 44 (73.33%) farm women were from Rajsamand tehsil and 36 (60.00%) from Railmagra tehsil belonged to illiterate group, whereas, 16 (26.67%) farm women from Rajsamand tehsil and 24 (40.00%) from Railmagra tehsil belonged to literate group.

Findings are in agreement with Chayal *et al.* (2013) [7] who found that 56.67 per cent of respondents were illiterate, 27.50 per cent of respondents were literate, and 7.50 per cent primary, 5.00 per cent middle and 3.33 per cent graduate level.

**Type of family**

The type of family is social factor. There are two type of family *i.e.* nuclear and joint. The data with respect to family type of farm women are presented in Table 1.

The data presented in Table 1 indicate that 75.83 per cent farm women belonged to joint family and 24.17 per cent farm women belonged to nuclear family group.

Table 1 further indicates that among joint family *i.e.* 42 (70.00%) farm women belonged to Rajsamand and 49 (81.67%) farm women were from Railmagra tehsil, while 18 (30.00%) and 11 (18.33%) farm women possessed nuclear type of family of Rajsamand and Railmagra tehsil, respectively.

Findings are in agreement with Vaghasiya (2018) [6] who highlighted that nearly three fifth (57.78%) of farm women belonged to nuclear family, while more than two fifth (42.22%) belonged to joint family.

**Size of family**

The family as a single entity influences through and actions of the individual member in a large scale. Generally the large family finds it more difficult to arrive at a decision making and participation regarding the *Bt.* cotton cultivation practices. On the basis of members in family the respondents

were grouped into two categorized *i.e.* small family (upto 5 members) and large family (above 5 members).The results regarding size of family are depicted in Table 1.

The data presented in Table 1 indicate that 68.33 per cent farm women were belonged to large family and 31.67 per cent farm women belonged from small family.

Table 1 further indicates that among small family *i.e.* 18 (30.00%) farm women belonged to Rajsamand tehsil and 20 (33.33%) farm women were from Railmagra tehsil, while among large family, 42 (70.00%) and 40 (66.67%) respondents belonged to Rajsamand and Railmagra tehsil, respectively.

The present findings are in line with finding of Kumari (2018) [5] who revealed that majority of farm women (53.33%) were belonged to medium family of size followed by large (33.33%) and small (13.33%) family.

### Land holding

Land holding is a main resource of every farm women because majority of farm women depend for their livelihood on agriculture business. It is the major asset of every farm

women. It is the area of land possessed by an individual farm woman. The detail of distribution of farm women according to their size of land holding is presented in Table 1.

The data presented in Table 1 show that higher percentage of the farm women (65.84%) have small size of land holding followed by marginal size of land holding (20.83%) and large size of land holding (13.33%), respectively.

Table 1 further indicates that 40 (66.67%) respondents from Rajsamand tehsil and 39 (65.00%) from Railmagra tehsil belonged to small land holding category, whereas, 15 (25.00%) and 10 (16.67%) farm women belonged to marginal land holding category, respectively. Likewise, the representation of farm women of Rajsamand and Railmagra tehsils in large land holding category was 5 (8.33%) and 11 (18.33%), respectively. It is therefore, concluded that majority of farm women were belonged to small size of land holding.

The findings are supported by the findings of Kumari (2018) [5] who concluded that majority (46.66%) of farm women belonged to marginal farmers category followed by 42.50 per cent them were small farmers and only 11.11 per cent of them were large farmers.

**Table 2:** Distribution of farm women according to their psychological characteristics n=120

S. No.	Category	Rajsamand tehsil		Railmagra tehsil		Total	
		F	%	f	%	F	%
1.	Low social participation (<1.95)	13	21.67	7	11.66	20	16.66
2.	Medium social participation (1.95 to 6.45)	39	65.00	37	61.68	76	63.34
3.	High social participation (>6.45)	8	13.33	16	26.66	24	20.00
<b>Extension participation</b>							
1.	Low extension participation (<1.05)	20	33.33	6	10.00	21	21.66
2.	Medium extension participation (1.05 to 7.99)	32	53.34	29	48.34	66	50.84
3.	High extension participation (>7.99)	8	13.33	25	41.66	33	27.50
<b>Source of information</b>							
1.	Low utilization of Source of Information (<16.63)	17	28.33	8	13.33	25	20.83
2.	Medium Utilization of Source of Information (16.63 to 31.46)	38	63.34	24	40.00	62	51.67
3.	High Utilization of Source of information (>31.46)	5	8.33	28	46.67	33	27.50
<b>Risk orientation</b>							
1.	Low Level of Risk Orientation (<3.18)	19	31.67	10	16.67	29	24.16
2.	Medium Level of Risk Orientation (3.18 to 4.80)	23	38.33	33	55.00	56	46.67
3.	High Level of Risk Orientation (>4.80)	18	30.00	17	28.33	35	29.17
<b>Innovativeness</b>							
1.	Low Level of Innovativeness (<9.430)	16	26.67	9	15.00	25	20.84
2.	Medium Level of Innovativeness (9.430 to 13.43)	35	58.33	34	56.67	69	57.50
3.	High Level of Innovativeness (>13.43)	9	15.00	17	28.33	26	21.66
<b>Market orientation</b>							
1.	Low Market Orientation (<14.92)	13	21.67	6	10.00	19	15.84
2.	Medium Market Orientation (14.92 to 19.95)	38	63.33	34	56.67	72	60.00
3.	High Market Orientation (>19.95)	9	15.00	20	33.33	29	24.16
<b>Self- confidence</b>							
1.	Low Self Confidence (<1.79)	10	16.67	18	30.00	28	23.33
2.	Medium Self Confidence (1.79 to 5.70)	35	58.33	33	55.00	68	56.67
3.	High Self Confidence (>5.70)	15	25.00	9	15.00	24	20.00
	Total	60	100	60	100	120	100

f = frequency, % = per cent

### Social participation

Social participation indicated that the extent to which an individual is actively involved in the community. In any social organization's membership the farm women gets a platform to exchange their views and feelings.

The data in Table 2 indicate the information about social participation of the farm women. The data reveals that majority (63.64%) of the farm women had medium level of social participation, whereas 20.00 per cent had high and 16.66 per cent had low level of social participation.

Table 2 further reveals that 39 (65.00%) respondents from Rajsamand tehsil and 37 (61.68%) respondents from Railmagra tehsil belonged to medium level of social participation category, whereas 13 (21.67%) and 7 (11.66%) farm women belonged to low level of social participation category in Rajsamand and Railmagra tehsil respectively. It was further noted that 8 (13.33%) and 16 (26.66%) farm women belonged to high level of social participation category in Rajamand and Railmagra tehsil, respectively.

Similar finding are supported by Vaghasiya (2018) [6] who

observed that about three fifth (60.74%) of farm women had medium social participation followed by low social participation (9.63%) and high social participation (9.63%) in the study area.

### Extension participation

Extension participation helps farm women to acquire knowledge and skill about farm activities with the help of extension agent. Extension agents provide training to the farm women to develop the farm skill. The detail of distribution of farm women according to their extension participation is presented in Table 2.

The data presented in Table 2 show that higher percentage of the farm women (50.84%) found to medium level of extension participation category followed by 27.50 per cent farm women in high extension participation category and 21.66 per cent respondents in low level extension participation category.

### Level of farm women according to extension participation

Table 2 further reveals that 32 respondents (53.34%) from Rajsamand tehsil and 29 respondents (48.34%) from Railmagra tehsil belonged to medium level of extension participation category, whereas 8 (13.33%) and 25 (41.66%) farm women belonged to high level of extension participation category in Rajsamand and Railmagra tehsils, respectively. It was also found that 20 (33.33%) and 06 (10.00%) farm women belonged to low level of extension participation category in Rajamand and Railmagra tehsil, respectively.

The present Finding are in line with the findings of Vaghasiya (2018) <sup>[6]</sup> who concluded that majority (66.67%) of farm women had medium extension participation, whereas 18.52 and 14.81 per cent of them had high and low extension participation, respectively.

### Source of information

Source of information provide the latest information, new technologies, marketing polices etc. through proper channel to the farm women. The data presented in Table 2 reveal that 51.67 per cent of farm women were using source of information at medium level followed by 27.50 and 20.83 per cent of them were using source of information at high and low level, respectively.

The data in Table 2 also indicate that 38 farm women (63.34%) from Rajsamand tehsil and 24 farm women (40.00%) from Railmagra tehsil belonged to medium level of source of information group, whereas, 17 (28.33%) and 8 (13.33%) farm women belonged to low level of source of information group in Rajsamand and Railmagra tehsil, respectively. Likewise, the representation of farm women of Rajsamand and Railmagra tehsils in high level of source of information was 5 (8.33%) and 28 (46.67%), respectively. It is therefore, concluded that majority of farm women were medium level of source of information in the study area.

Finding are in agreement with findings of Patel *et al.* (2017) <sup>[8]</sup> who found that majority (75.50%) of farm women used medium level of source of information for obtaining information about dairy farming whereas, 14.50 per cent and 10.00 per cent of them used more and less source of information, respectively.

### Risk orientation

The risk orientation is described as the degree to which an individual is oriented towards the risk and uncertainty and has

courage to face the problems in their business. This is one of the important qualities to manage risk. To understand role of this characteristic, data were collected and presented into three groups according to their level of risk orientation, as shown in Table 2 which reveals that 46.67 per cent of farm women having a medium level of risk orientation followed by 29.17 and 24.16 per cent of farm women having high and low level risk orientation, respectively.

Data in Table 2 also reveal that 23 respondents (38.33%) from Rajsamand tehsil and 33 respondents (55.00%) from Railmagra tehsil belonged to medium level of risk orientation category, whereas, 19 (31.67%) and 10 (16.67%) farm women belonged to low level of risk orientation in Rajsamand and Railmagra tehsil, respectively. Similarly the representation of farm women of Rajsamand and Railmagra tehsils in high level of risk orientation was 18 (30.00%) and 17 (28.33%), respectively. It is therefore, concluded that majority of farm women were medium level of risk orientation in the study area.

Similar findings have been reported by Santhi and Kalirajan (2018) <sup>[9]</sup> who found that the majority (59.17%) of the respondents were medium level of risk orientation followed by 24.17 and 16.67 per cent had high and low risk orientation, respectively.

### Innovativeness

Innovativeness play vital role in influencing the socio-economic change and employment of farm women. To find out the role of innovativeness the information was gathered and data were classified as shown in Table 10.

The data in Table 2 concluded that 57.50 per cent of farm women had medium level of innovativeness; followed by 21.66 per cent and 20.84 per cent of them had high and low level of innovativeness, respectively.

Data in table 2 also reveal that 35 respondents (58.33%) from Rajsamand tehsil and 34 respondents (56.67%) from Railmagra tehsil belonged to medium level of innovativeness category, whereas, 16 (26.67%) and 9 (15.00%) farm women belonged to low level of innovativeness in Rajsamand and Railmagra tehsil, respectively. The representation of farm women of Rajsamand and Railmagra tehsils in high level of innovativeness was 9 (15.00%) and 17 (28.33%), respectively. It is therefore, concluded that majority of farm women were having medium level of innovativeness about farm technology.

The finding are in agreement with the findings of Santhi and Kalirajan (2018) <sup>[9]</sup> who stated that 47.50 per cent of the respondents had medium level of innovativeness whereas, 22.50 per cent and 30.00 per cent of them had low high level of innovativeness, respectively.

### Market orientation

The data presented that Table 2 reveal that majority (60.00%) of farm women had medium level of market orientation whereas, 15.84 per cent and 24.16 per cent of farm women had high and low level of market orientation.

Table 2 also reveals that 38 farm women (66.33%) from Rajsamand tehsil and 34 farm women (56.67%) from Railmagra tehsil belonged to medium level of market orientation category, whereas, 13 (21.66%) and 06 (10.00%) farm women belonged to low level of market orientation in Rajsamand and Railmagra tehsils, respectively. It was further noted that farm women of Rajsamand and Railmagra tehsils in high level of market orientation was 9 (15.00%) and 20



(33.33%), respectively. It is therefore, inferred that majority of farm women had medium level of market orientation. Similar finding have been reported by Vaghasiya (2018) <sup>[6]</sup> who revealed that 75.56 per cent of farm women had medium level of market orientation followed by 15.55 per cent had high level of market orientation and 8.89 per cent had low level of market orientation.

#### Self confidence

The data presented that Table 2 reveal that 56.67 per cent of farm women belonged to medium level of self-confidence group whereas, 20.00 per cent and 23.33 per cent of farm women had high and low level of self-confidence about *Bt.* cotton cultivation technology.

The data in Table 2 also reveal that 35 respondents (58.33%) from Rajsamand tehsil and 33 respondents (55.00%) from Railmagra tehsil belonged to medium level of self-confidence category, whereas, 15 (25.00%) and 9 (15.00%) farm women belonged to high level of self-confidence category in Rajsamand and Railmagra tehsil, respectively. Likewise, the representation of farm women of Rajsamand and Railmagra tehsil in low level of self-confidence was 10 (16.67%) and 18 (30.00%), respectively. It is therefore, concluded that majority of farm women possessed medium level of self-confidence.

The present finding are in accordance with the findings of Vaghasiya (2018) <sup>[6]</sup> who indicated that more than three fifth (62.96%) of farm women had medium level of self-confidence followed by 22.23 per cent and 14.81 per cent had high and low level of self-confidence, respectively.

#### Conclusion

It may be concluded that, higher proportion of farm women belong to middle age group, majority (66.67%) of farm women belonged to illiterate category, 75.83 per cent farm women belonged to joint family, majority of 68.33 per cent farm women were belonged to large family, higher percentage of the farm women (65.84%) have small size of land holding, belonged to medium level of innovativeness, medium level of social participation, medium level of extension participation, medium utilization of source of information, medium level of market orientation, medium level of self-confidence and medium level of risk orientation. The study indicate that majority of the farm women were in actively working age group, size of family and social participation in *Bt.* Cotton cultivation. ; but there exist the monopoly of pre harvest contractor in marketing of *Bt.* Cotton, hence Government should give attention to provide strong marketing support to *Bt.* Cotton growers so as to get remunerative price for the *Bt.* Cotton is recommended that Govt. and NGO's shall launch programs such as adult education in order to enable this large flock to read and understand the relevant published literature and broadcast information. More efforts are needed to encourage women and to raise women's Knowledge of efficient management practices of *Bt.* cotton cultivation. Women organizations should be encouraged to streamline marketing activities and save marketing cost. Generally the women are unable to get any reward for their work; therefore, policy should be devised in this issue.

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