



A Comparative Study on Profile Characteristics of Farm Men and Women in Paddy Cultivation: A Study in Shivamogga District

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Authors' contributions

This work was carried out in collaboration among all authors. Author CK designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author BB managed the analyses of the study. Authors DVK and HV managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJAEES/2021/v39i630589

Editor(s):

- (1) Dr. Tulus T.H. Tambunan, University of Trisakti, Indonesia.
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- (1) Tumiar Katarina Manik, Lampung University, Indonesia.
(2) Fatemeh Ahmadi, Urmia University, Iran and University of Tasmania, Australia.
Complete Peer review History: <http://www.sdiarticle4.com/review-history/68478>

Original Research Article

Received 08 April 2021
Accepted 12 June 2021
Published 16 June 2021

ABSTRACT

The slogan "RICE is life" is most appropriate for India as this crop plays a vital role in our national food security and is a means of livelihood for millions of rural households. Major Rice growing districts of Karnataka are Bellary, Davangere, Mysore, Mandya, and Shivamogga. The study was conducted in Shivamogga district since Shivamogga district comes under medium productive region of Karnataka state. The study revealed that one third (38.33 %) of farm men had a high level of education whereas, less than half of the respondents (43.34 %) of farm women had a medium level of education. A little more than half (50.00 %) of farm men and farm women belonged to small-sized landholding categories. Concerning extension contact, it is observed that a more significant number (53.33%) of farm men had a medium level of extension agency contact, nearly half (46.57 %) of

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farm women had a low level of extension contact. Most (43.34 %) of the farm men and around forty percent of farm women had medium-level extension participation. It is evident from the study that farm women stay lower in most of the profile characters than men and there exists a diversification in socio-economic status, psychological behavior and participative nature of farm men and women due to various gender issues. Hence, this paper throws a light on the comparison of profile characteristics of farm men and farm women who are paddy growers of shivamogga district, where it clearly depicts the profile characters that are low in women than men and that can be taken as a lead to educate the male dominated family to find out the push factors missing for farmwomen and the best way it can be improved. It also helps the policy makers and extension agents to concentrate more on women to improve their socio-economic, psychological and communicational characters in society by suggesting location specific feasible solutions, that further improves the efficiency of farm men and women in paddy cultivation.

Keywords: Personal; socio-economical; psychological; communication characteristics; farm men; farm women; and paddy cultivation.

1. INTRODUCTION

Paddy is an important food crop for more than one-third of the world's population. Ninety-five percent of the world's rice is grown in developing countries, primarily in Asia, Africa, and Latin America. After the 2008 rice price crisis, the reaffirmation of many countries to revitalize the domestic rice sector and achieve food security through rice self-sufficiency is an excellent example of what rice means to many countries in the region. The slogan "RICE is life" is most appropriate for India. This crop plays a vital role in our national food security and is a means of livelihood for millions of rural households [1]. Globally, it is also the second most cultivated cereal after wheat. The area under rice in India is 44.5 m ha with a production of 106.5 mt and productivity of 2393 kg ha⁻¹. In Karnataka, it is grown over 1.27 m ha area with a production of 3.80 mt and productivity of 2649 kg ha⁻¹ [2]. Shivamogga district comes under medium productive region having an area of about 1.29 lakh ha and production of 3.13 lakh tones with the productivity of 2516 kg ha⁻¹. As the district has intense fertile soil to cultivate paddy crops, it is popularly known for rice production. Following are some important reasons of selection of shivamogga district of Karnataka state for the study.

1. This district has both command and rainfed areas, and paddy is the major agricultural crop.
2. Shivamogga being a Malnad area traditionally known for paddy cultivation.
3. Rice is the staple food for people residing in the district.

'Farmer' is a general term used for a vast group of people having varied needs, interests,

resources, and opportunities. There is a need for categorizing the farmers into various aggregates according to their socio-economic and psychological characters [3]. The irony is in a general statement the term farmer flashes in our mind is men, we always forget the contribution of farm women in agriculture in general and in paddy cultivation in particular. So, the roles of rural women and those of rural men are conditioned by several interrelated socio-economic (class, ethnicity, age, religion), political and environmental factors and are known as 'gender roles.' in India, majority of the farm works are being done by women farmers only and majority of them are in the age group of 18 years to 50 years who are actively involved in farming [4]. Women are always shown disparity in providing education it is observed that more percent of illiteracy is seen in women, while the illiterate percent of farm men is just 1.32% [5]. Indian farm women involve in farming occupation in majority and some involve in farming along with petty business and daily wage earning works [4]. Even though women equally involve and considered as the major participants of farming when it comes to economic status of farm women, they fall under the medium income category than that of farm men. That may be the fact that farm women are less skilled unlike farm men [6]. Due to huge variation in income earnings of farm men and farmwomen, farmwomen have possibilities to show low economic motivation, while farm men always have high economic motivation [5]. Paddy farming is one such farming activities that involves several cultivation practices where both men and women play active roles in one way or another. Farmwomen involve in most of the farm activities and show a favorable level of attitude towards farming in fact farming becomes a rural women part of life. However, experiences show

that agricultural, environmental, and related policies and programmers do not differentiate between male and female farmers [7] but are targeted primarily at men. It is observed that majority of frequency of farm women contacts with external personnel were community coordinator (68.33%) and anganwadi worker (58.33%) than with agricultural extension officers and VLEWS, due to lack of women extension agents and that makes women to have less extension contact to broaden her network as well as knowledge [4]. Given women's key role in rice-based livelihood systems, the gender-differentiated analysis should generate new strategies for rice farming households [8]. It is evident from the study that farm women stay lower in most of the profile characters than men and there exists a diversification in socio-economic status, psychological behavior and participative nature of farm men and women due to various gender issues. Hence, this paper throws a light on the comparison of profile characteristics of farm men and farm women who are paddy growers of shivamogga district, where it clearly depicts the profile characters that are low in farm women than farm men and that can be taken as a lead to educate the male dominated family to find out the push factors missing for farm women and the best way to encourage her. It also helps the policy makers and extension agents to concentrate more on women to improve their socio-economic, psychological and communicational characters in society by suggesting location specific feasible solutions, that further improves the efficiency of farm men and women in paddy cultivation.

2. METHODOLOGY

The study was conducted in Shivamogga district since Shivamogga district was under the medium productive region. Three talukas of the shivmogga district were selected, namely Badhravathi (15,755 ha), Sorabha (27,985 ha), and Sagara (15,567 ha) those talukas having the highest paddy cultivation. From each taluka, four villages were selected based on the highest area under paddy cultivation. Both command area and rainfed area were selected for the study. Five farm men and five farm women were randomly selected from each village. From 12 villages of three talukas, 60 farm men and 60 farm women were selected. Thus, a total of 120 respondents constituted a sample for the study. The criteria for selecting respondents were the family having both husband and wife involved in agriculture and cultivating paddy crop for three years. The

ex-post facto research design was used, and the data was collected through a personal interview method using a structured interview schedule. Frequency and percentage are used to interpret the results. Fourteen independent variables (personal, socio-economic, psychological and communication characteristics) were selected to study the characteristics of the farm men and women for the study.

2.1 Personal and Socio-Economic Characteristics of Farm Men and Women

2.1.1 Age

It is observed from Table 1 that the majority (56.67 %) of farm men belonged to the middle age group, followed by 30.00 percent and 13.33 percent of them belonged to old and young age groups, respectively. Table 1 also reveals that the majority (73.33 %) of farm women belonged to the middle age group, followed by 15.00 and 11.67 percent of them belonging to old and young age groups, respectively. In this study, it is observed that middle and old-aged farm men and women are more likely to be involved in paddy cultivation activities. This could be that the younger generation is not interested in spending their time in paddy cultivation and by in large in agriculture itself. The young generation expected more profit from agriculture hence interested in the cultivation of commercial crops like arecanut, coconut, vegetables, fruits, and flower crops rather than paddy cultivation. Only the old age people who have been practicing agriculture traditionally spend more time and are involved in paddy cultivation, as this provides food grains for their family. The obtained results are in accordance with the findings of Supriya [1].

2.1.2 Education

In Table 1 it can be observed that 38.33 percent of farm men had a high level of education, whereas one-fourth of them (36.67 %) had a medium level of education and 25.00 percent had a low education level. Less than half (43.33%) of farm women had a medium level of education whereas, 33.33 percent had a low level of education, and 23.33 percent of farm women had high education levels. The reason for men farmers having high to medium level of education and farm women having medium level education is due to the reason that both are having awareness about the importance of

education to respondents as well as to their family members. Availability of primary and high school education locally and nearness of college education for some of the respondents who stay near towns. One-third (33.33 %) of the women respondents and 25.00 percent of men respondents had low level of education. The reason could be due to the distant location of higher study centers from the villages, and lack of capital might also contribute to these respondents'. As some rural farm families are still traditional, they generally did not prefer to send their daughters to college and expect them to

assist in household activities. They prefer to educate males rather than females in a family. Similar results are observed in the findings of [7].

2.1.3 Family type

Table 1 shows that an overwhelming majority (55 %) of respondents had a nuclear family, and the remaining 35.00 percent had a joint family. The findings with respect to family type were the same for both the farm men and women since the data was collected from the head of the

Table 1. Distribution of farm men and women according to their personal, socio-economic characteristics according to age

Sl. No.	Independent variable	Category	n= 120			
			Men (n ₁ =60)		Women (n ₂ =60)	
			No.	%	No.	%
1.	Age					
	Young - <35	Young	8	13.33	7	11.67
	Middle -35 to 50	Middle	34	56.67	44	73.33
	Old - >50	Old	18	30.00	9	15.00
2.	Education	Low	15	25.00	20	33.33
	Farm men: Mean= 2.88 SD= 1.462	Medium	22	36.67	26	43.34
	Farm women: Mean= 2.68 SD= 1.66	High	23	38.33	14	23.33
3.	Family type	Nuclear	39	65.00	39	65.00
		Joint	21	35.00	21	35.00
4.	Annual family income	Low	9	15.00	9	15.00
	Mean= 2.21 SD= 0.71	Medium	25	43.33	25	43.33
		High	26	41.67	26	41.67
5.	Landholdings (in acres)	Marginal	14	23.33	14	23.33
	Marginal Farmers - < 2.50					
	Small Farmers - 2.50 to 5	Small	30	50.00	30	50.00
	Large farmers - >5	Big	16	26.67	16	26.67
6.	Farming experience (years)		5	8.33	11	18.33
	Less - up to 8	Less				
	Moderate – 9 to 16	Moderate	9	15.00	39	65.00
	More - 17 and above	More	46	76.67	10	16.67
7.	Possession of Agricultural implements	Plough/cultivator	10	16.67	10	16.67
		Puddler				
		i. Bullock drawn	19	31.67	19	31.67
		ii. Tractor drawn	9	15.00	9	15.00
		Rotavator	6	10.00	6	10.00
		Tractors	11	18.33	11	18.33
		Cage wheels	22	36.67	22	36.67
		Power tiller	18	30.00	18	30.00
		Sprayer/duster	38	63.33	38	63.33
		Cutter	21	35.00	21	35.00
		Reaper	1	1.67	1	1.67
		Rice trans planter	0	0	0	0
		Combined Harvester	0	0	0	0

family and his spouse. The probable reasons for finding a nuclear family (65.00 %) could be that their desire to lead an independent life with proper accommodation, basic amenities and wished to give their kids a better future. It is opinioned that nuclear family helped in the planned and economical way of spending the income earned. The other benefits noticed were getting enough time to take up subsidiary occupation, and above all, in a nuclear family, homemakers become the female head of the family. Similar findings were also reported by Venkatappa and Chinnappa [9] and [3].

2.1.4 Annual family income

The respondents' annual family income is presented in Table 1, which revealed that 43.33 percent of the respondents belonged to the medium-level annual family income category, followed by 41.67 percent yearly high income category. Though the results with respect to landholdings showed small (50.00 %) and marginal landholding (23.33%), the respondents are getting assured income by cultivating not only paddy but also other multiple crops like arecanut, coconut, vegetable, and fruit crops. They also involved in allied activities of agriculture like dairy and goat rearing for getting an additional income.

2.1.5 Landholding

Table 1 reveals that half (50.00%) of the respondents had small landholdings and 23.33 percent had marginally sized landholding. The reason for possession of small and marginal landholdings could be nuclear families (65.00 %). To get benefit from the government schemes, some of the farm families were also documented landholdings in their respective names. The fragmentation of ancestral land from generation to generation might have led to smaller and marginal size land holdings. On the contrary, only 26.67 percent of the respondents belonged to big-size land holding due to joint family type (35.00 %). These respondents purchased additional agricultural lands and their ancestral land as these respondents had agriculture as the main occupation of their family.

2.1.6 Farming experience

A majority (76.67 %) of farm men had a more farming experience, followed by 15.00 percent had a moderate level of experience, and only 8.33 percent had less farming experience

(Table 1). The probable reason can be that most farm men (86.67 %) belonged to the middle to old age group and were practicing agriculture as their livelihood occupation. The reason for having 8.33 percent of men respondents with less experience is that 13.33 percent of the farm men belong to a young age group and are involved in farming activities for less than eight years only. More than half (65.00%) of farm women had a moderate level of farming experience, followed by 18.33 percent having less experience in farming (Table 1). As most women belong to the middle (73.33 %) and young (11.67 %) age group, it is evident that as the age increases, experience also increased. Most women were not fully involved in agriculture; however, they are assisting their husbands in carrying out some agricultural activities. The results were in line with the findings of [7].

2.1.7 Possession of agricultural implements

The data with respect to possession of agricultural implements (Table 1) showed that the respondents possessed sprayer/ duster (63.33 %), cage wheels (36.67 %), cutter (35.00 %), bullock drawn puddler (31.67 %), and power tiller (30.00 %). The reason for respondents possessed these implements was due to the fact that these implements were necessarily required to carry out land preparation, plant protection and harvesting activities. Availability of implements locally and government subsidy schemes motivated them to possess the implements. The non-availability of agricultural labor for carrying out paddy cultivation activities was the added reason for implement possession. Any of the respondents did not possess the implements like rice transplanter and combined harvesters due to the high cost of the machinery, less area under paddy crop and availability of these machineries in custom hiring centers on the hired basis.

2.2 Psychological and Communication Characteristics of Farm Men and Women

2.2.1 Attitude towards Paddy farming

Table 2 revealed that half of the farm men (50.00 %) had a favorable attitude towards paddy farming. In comparison, 16.67 percent had a less favorable attitude. More than half (56.67 %) of the farm women had a favorable attitude, followed by 25.00 percent of them having a less favorable attitude towards paddy farming. The probable reason for this could be that paddy is

not a commercial crop; it is an essential food crop, and the profit margin was less than other crops. Labor requirement and drudgery involved in paddy cultivation is high, and working in wet paddy land is difficult compared to cultivation of crops like maize. Hence we can see respondents having favorable to less favorable attitude towards paddy farming. On the contrary, 33.33 percent of farm men and 18.33 percent of farm women had a more favorable attitude towards paddy farming; this could be due to the fact that as the paddy is an important food crop, farmers cultivated paddy as their integral part of agriculture. The obtained result is in line with the findings of Nishitha [10].

2.2.2 Innovativeness

Table 2 showed that more than half (55 %) of the farm men belonged to a medium level of innovativeness, followed by a high (26.67 %) level of innovativeness. The reason for men having medium to high innovativeness was farm

men had increase knowledge level, higher educational status, high extension participation followed by exposure to mass media and interest to gather new information. Further, it was observed that the majority of the farm men had favorable to more favorable attitude towards farming hence they intended to achieve high income by adopting the innovations. On the other hand, farm women had medium (53.33 %) to low level (25.00 %) of innovativeness reason for this might be due to the fact that farm women have favorable and less favorable attitude towards farming and also 65.00 per cent of farm women had moderate level of farming experience so that may result in low level of innovativeness due to the negligence of the respondents to try out new things/technologies on their farms. women involved in more of household activities than in cultivation, they assist men and go with the decisions of innovative ideas taken for farming by their spouses. The obtained result is in accordance findings of Nishitha [10].

Table 2. Distribution of farm men and women according to their Psychological and communication characteristics

n= 120

Sl. No.	Independent variable	Category	Men (n ₁ =60)		Women (n ₂ =60)	
			No.	%	No.	%
1.	Attitude towards farming Farm men: Mean= 20.35 SD= 1.87 Farmwomen: Mean= 16.11 SD= 2.45	Less favorable	10	16.67	15	25.00
		Favorable	30	50.00	34	56.67
		More favorable	20	33.33	11	18.33
2.	Innovativeness Farm men: Mean= 8.58 SD= 4.23 Farm women: Mean= 7.01 SD= 4.04	Low	11	18.33	15	25.00
		Medium	33	55.00	32	53.33
		High	16	26.67	13	21.67
3.	Achievement motivation Farm men: Mean= 22.88 SD= 1.78 Farm women: Mean= 22.11 SD=1.55	Low	09	15.00	28	46.67
		Medium	37	61.67	21	35.00
		High	14	23.33	11	18.33
4.	Economic motivation Farm men: Mean= 3.75 SD= 1.34	Low	13	21.67	23	38.34
		Medium	32	53.33	26	43.33
		High	15	25.00	11	18.33

Sl. No.	Independent variable	Category	Men (n ₁ =60)		Women (n ₂ =60)	
			No.	%	No.	%
	Farm women: Mean= 3.75 SD=1.03					
5.	Mass media participation Farm men: Mean= 4.55 SD= 1.77 Farm women: Mean= 1.77 SD= 0.89	Low	20	33.33	27	45.00
		Medium	13	21.67	25	41.67
		High	27	45.00	8	13.33
6.	Extension agency contact Farm men: Mean= 4.95 SD= 2.33 Farmwomen: Mean= 0.98 SD= 1.09	Low	17	28.33	28	46.67
		Medium	32	53.33	13	21.66
		High	11	18.34	19	31.67
7.	Extension participation Farm men: Mean= 8.86 SD= 4.01 Farm women: Mean= 1.75 SD= 1.20	Low	17	28.33	22	36.67
		Medium	26	43.34	25	41.67
		High	17	28.33	13	21.66

2.2.3 Achievement motivation

Table 2 revealed that a large number (61.67 %) of farm men had a medium level of achievement motivation, followed by 23.33 percent and 15.00 percent of farm men had high and low achievement motivation levels. Further in women's case, more (46.67 %) number of farm women had a low level of achievement motivation, followed by 35.00 and 18.33 percent of them having medium and high achievement motivation levels. The reasons for medium to a high level of achievement motivation in case of farm men might be due to the present competitive world, which motivated the respondents for higher achievement motivation. Men had higher exposure to the outside world, learned many new things, tried to inculcate those new ideas and strategies in their own farming situations, and wanted to achieve more in life. On the contrary, with fewer efforts and less involvement of women in agriculture, women's dependency on their husbands for all the decisions makes them less self-reliant; hence, farm women will have low achievement motivation. Results are in line with [7].

2.2.4 Economic motivation

Table 2 revealed that more than half (53.33 %) of farm men had a medium level of economic motivation. While 25.00 and 21.67 percent of farm men had high and low levels of economic motivation, respectively. The possible reason for farm men having medium to high economic motivation was due to the urge to become economically sound to lead a comfortable life with their families. On the contrary, women had medium (43.33 %) to low (38.33 %) economic motivation levels because they depended on their husbands for their financial needs. Apart from assisting their husband in paddy cultivation, they also take care of household activities. The women were more engaged in household activities than farm activities.

2.2.5 Mass media participation

It is also observed in Table 2 that most (45.00 %) of the farm men had a high level of mass media participation, followed by 33.33 and 21.67 percent having low and medium levels of mass media participation, respectively. Forty-five percent of farm women had a low level of mass

media participation, followed by 41.67 percent having medium and 13.33 percent having a high mass media participation level. The main reasons for a high level of mass media participation might be due to the fact that the satellite era has resulted in more exposure to all types of mass media such as Cable TV, DTH, DISH TV, radio, and print media. Television and radio were the most effective and common mass media possessed by a large majority of the respondents. Television has a strong visual impact compared to only reading in case of newspaper and listening in radio. Also, the illiterates get very good educative programs from this stronger media. On the contrary, the probable reason for the medium and low level of mass media participation by the farm men and farm women might be due to less utility, lack of practicability, and inconvenient broadcast timings of the agricultural programs. The circulation of newspapers and radio signals' availability were the limitations for some of the interior villages. The above findings were similar to the findings of Bharath [7].

2.2.6 Extension agency contact

With respect to extension agency contact, it is observed that a greater number (53.33 %) of farm men had a medium level of extension agency contact, followed by 28.33 and 18.34 percent of them having low and high levels of extension agency contact, respectively (Table 2). It can also be seen that 46.57 percent of farm women had a low level of extension agency contact, followed by 31.67 and 21.66 percent of them have high and medium levels of extension agency contact, respectively.

The reason for having a medium level of extension contact might be that the respondents have been assured that these extension contacts are for their welfare from which they can get recent information and clarify their doubts about farm practices. In the contrary, some of the female respondents had low extension contact (45.57 %). The possible reason could be lack of interest, busy work schedule, and fewer female extension agents. Lack of respondent's contact with extension personnel and his/her ignorance might be the other reason for low-level extension contact. This finding is in par with study of Madhushree [11].

2.2.7 Extension participation

With regard to extension participation, it is seen that most (43.34 %) of the farm men had a

medium level of extension participation (Table 2), followed by equal (28.33%) percent of them having high and low levels of extension participation, respectively. In the case of farm women, it is observed that 41.67 percent of farm women had a medium level of extension participation, while 36.67 and 21.66 percent were having low and high levels of extension participation, respectively. The main reason for this result was that most of the respondents participated in krishimela and training programs if conducted near their locality. The interest of the respondent's participation in extension activities directly helped them gather information on recent innovative technologies and seek information from extension experts, subject matter specialists, etc. The above findings could be attributed to medium to high extension participation. On the contrary, female respondents had a low level of extension participation; this might be due to non-conduct of extension activities in one's village, lack of publicity or failure of programs to attract farm women, and some reasons for low extension participation. Most of the extensions programmes are targeted on farm men rather than farm women. The above findings were in line with the findings of [11] and [1].

3. CONCLUSION

Agriculture is a major component of rural income, especially in developing countries. In our country, both men and women are equal partners in performing farming activities, more so in staple food crops like paddy. The involvement of farm men and women in paddy cultivation is not marginal or insignificant. Still, it is crucial, and it depends on farm men and women's personal and socio-psychological and communicational characteristics. The study made a clear understanding that majority of farm men and farm women are middle aged, young aged farmers are very less. Farm men have received high level of education than farmwomen, where half of them have low level of education. It is the farmwomen have favorable attitude towards paddy farming than farm men. it is observed that farm men are having medium to high level of achievement motivation and economic motivation, whereas farmwomen have low levels in the same. When it comes to social participation such as mass media participation, extension agency contact and extension participation farm men are again having high involvement than farm women. In spite of Women play a key role in performing various

paddy cultivation activities right from field preparation till harvesting the produce, their involvement is more in household activities along with cultivation, they assist their spouses in farming activities but not much in taking decisions regarding farming that may be due to the fact that women stay low in education and social participation than farm men. there is major missing of push factor for every Farm woman from the society as well as the male members of the family to take the decisions and participate independently. When every woman is supported by providing good and high education and organizing training and workshops exclusively for women can make them more socially active and self-reliant.

CONSENT

As per international standard or university standard, respondents written consent has been collected by the author.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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