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CORRELATION BETWEEN PROFILE OF FARMERS AND EXTENT OF ADOPTION OF DRUDGERY REDUCING TECHNOLOGIES

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ABSTRACT

The present study was conducted in Marathwada region of Maharashtra state during the year 2023-24 with the objective to know correlation between profile of farmers and extent of adoption of drudgery reducing technologies developed by VNMKV, Parbhani among the farmers. For the study, Parbhani district was selected from Maharashtra state as, the work of All India Coordinated Research Project (Women in agriculture), Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani was carried out in this district. 10 villages were selected randomly from the respective talukas from Parbhani district and 12 respondents from each village were selected randomly from the list of beneficiaries of AICRP (WIA), VNMKV, Parbhani constituting the sample size of 120. Ex-post-facto research design was used for the study. Data was gathered using a interview schedule. To interpret findings and draw conclusions, statistical tools such as frequency, percentage, mean, standard deviation and coefficient correlation were used. Ten independent variables were considered for study among which age and the adoption indicates a negative and non-significant relationship. The variables size of family, occupation, land holding, extension contact, social participation, and knowledge exhibit a positive and significant relationship with the adoption of drudgery reducing technologies. Additionally, education, annual income, and risk orientation show a positive and highly significant relationship with the adoption of drudgery reducing technologies.

Keywords : *correlation, adoption, drudgery, technologies*

INTRODUCTION

Agriculture has most important role in Indian economy. Agriculture sector is the occupation of majority of population in India. At most of the places it is done by conventional methods. So that, it is considered as drudgery prone occupation. This perspective developed due to lack of modern technology, improved practises in daily working of agriculture. At most of the places farmers work manually which leads to wastage of manpower, time and money. Contribution of woman in agriculture is considerably very high. Out of India's three major farming communities male, female, and young only the group of the female farmers do over 60 per cent of farm related operations (Bindeshwari Pandro, 2020).

The drudgery reducing technologies helps to prevent long term health issues and injuries. These technologies are important to reduce the time and physical effort required for essential tasks. This not only enhances farm productivity but also enables farmers to allocate more time for crop management and planning other allied activities. By increasing operational efficiency, these technologies can reduce production expenses and improve profitability, making agriculture a more sustainable livelihood.

The Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani had developed drudgery reducing technologies like Cotton picking apron, Gopal khore, Revolving milking stool and stand, Janai hatmoje (Harvesting mitten), Trishul weeder, Sulbha Bag, Sonai Bag, Phuleri basket, Tikai Bag, Gauri Bag, digging tool Ukari and Nakhalya, wooden rake, Earthing up tool, multi-purpose tailoring table etc. All these tools alleviate physical strain and labour. By reducing the manual working and labour, these equipments allow the farmers to work on larger area in less time and more efficiently. This will indirectly help to reduce physical strain and retain the health. All India Coordinated Research Project (Women in agriculture) and College of Community Science, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani had developed various ICTs like mobile app in the name Technologies for farm women, blogs, YouTube etc to create awareness and increase the adoption level of drudgery reducing technology.

Although the benefits are clear, the adoption of these technologies by farmers varies widely across different regions and demographic groups. Several factors impact adoption rates, including access to finances, educational attainment, the presence of technical support, and cultural views on innovation. Therefore, adoption of drudgery reducing tools has very much importance in Indian agriculture sector. By the way of awareness and training, farmers will adopt these technologies which indirectly performs so many beneficial functions. Therefore, the study aims to analyze the correlation between profile of farmers and extent of adoption of drudgery reducing technologies, among the farmers.

OBJECTIVES

(1) To study the profile of farmers

(2) To find out the correlation between profile and extent of adoption of drudgery reducing technologies among farmers

METHODOLOGY

The present study was conducted in Marathwada region of Maharashtra state during the year 2023-24 with the objective to know correlation between profile of farmers and extent of adoption of drudgery reducing technologies developed by VNMKV, Parbhani among the farmers. For the study, Parbhani district was selected from Maharashtra state as, the work of All India Coordinated Research Project (Women in agriculture), Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani was carried out in this district. Three tehsils from Parbhani district viz., Parbhani, Purna and Manwath were selected for the purpose of study as major work of AICRP (WIA) VNMKV, Parbhani was carried out in three talukas. Previously and currently adopted 10 villages were selected randomly from the respective talukas and 12 respondents from each village were selected randomly from the list of beneficiaries of AICRP (WIA) VNMKV, Parbhani constituting the sample size of 120. Ex-post-facto research design was used for the study. Data was gathered using a well-structured interview schedule. To interpret findings and draw conclusions, statistical tools such as frequency, percentage, mean, standard deviation and coefficient correlation were used.

The independent variables were age, education, size of family, occupation, land holding, annual income, extension contact, social participation, risk orientation, knowledge of drudgery reducing technology. Adoption was the only dependent variable.

RESULTS AND DISCUSSION

The results and discussion of the study are described under the following headings. Correlation between profile of farmers and extent of adoption of drudgery reducing technologies.

Table 1: Profile of farmers (n =120)

Sr. No.	Profile	Category	Frequency	Percentage
1	Age	Young (Up to 30)	28	23.33
		Middle (31 to 48 years)	73	60.83
		Old (49 years and above)	19	15.84
2	Education	Illiterate	07	05.83
		Can read or write	21	17.50
		Primary	22	18.33
		Secondary	44	36.67
		Higher secondary	19	15.83
		Graduate and above	07	05.84
3	Size of family	Small family (Up to 4)	44	36.67
		Medium family (5 to 7)	68	56.67
		Big family (8 and above)	08	06.66
4	Occupation	Farming	86	71.67
		Farming + Labour	19	15.83
		Farming + Subsidiary occupation	11	09.17
		Farming + Business	04	03.33
		Farming + Service	0	00.00
5	Land holding	Landless	02	01.67
		Marginal (Up to 1.00 ha)	50	41.67
		Small (1.01 to 2.00 ha)	53	44.17

Sr. No.	Profile	Category	Frequency	Percentage
5	Land holding	Semi-medium (2.01 to 4.00 ha)	14	11.66
		Medium (4.01 to 10.00 ha)	01	00.83
		Large (10.01 and above ha)	0	00.00
6	Annual income	Low (Up to Rs. 59548.63)	15	12.50
		Medium (Rs. 59548.64 to Rs. 245201.36)	84	70.00
		High (245201.37 and above)	21	17.50
7	Extension contact	Low (Up to 6.06)	32	26.67
		Medium (6.07 to 14.25)	57	47.50
		High (14.26 and above)	31	25.83
8	Social participation	Low (Up to 4.01)	15	12.50
		Medium (4.02 to 8.98)	85	70.83
		High (8.99 and above)	20	16.67
9	Risk orientation	Low (Up to 17.76)	33	27.50
		Medium (17.77 to 23.77)	66	55.00
		High (23.78 and above)	21	17.50
10	Knowledge	Low (Up to 9.01)	20	16.67
		Medium (9.02 to 12.96)	60	50.00
		High (12.97 and above)	40	33.33
Dependent variable				
1	Adoption of drudgery reducing technology	Low (Up to 6.08)	29	24.17
		Medium (6.09 to 10.25)	73	60.83
		High (10.26 and above)	18	15.00

Majority 60.83 per cent respondents were in the middle-age group (Bindeshwari P., 2020), 36.67 per cent of respondents had completed secondary school (Tankodara, 2019), 56.67 per cent of respondents had medium-sized families (Shende, 2019), 71.67 per cent of respondents were primarily involved in farming (Chandan, 2017), 44.17 per cent of respondents fell into the small landholding category (Raut, 2023), 70.00 per cent of respondents had a medium level of annual income (Kale, 2021), 47.50 per cent of respondents were in the medium extension contact category (Vithalkar, 2021), 70.83 per cent of respondents were in the medium category of social participation (Tankodara, 2019), 55.00 per cent of respondents had a medium level of risk orientation (Vithalkar, 2021), 50.00 per cent of respondents had a medium level of knowledge about drudgery reducing technology (Vithalkar, 2021).

Table 2 reveals that the correlation coefficient (r) indicates a negative and non-significant relationship between age and the adoption of drudgery reducing technologies (Kishor, 2023) (Nirali H., 2023). In contrast, the variables size of family, occupation, land holding (Raut, 2023), extension contact (Kishor, 2023), social participation, and knowledge (Kishor, 2023) exhibit a positive and significant relationship with the adoption of drudgery reducing technologies. Additionally, education (Nirali H., 2023), annual income (Priyanka S., 2022) (Sharma, 2022) (Kishor, 2023), and risk orientation (Nirali H., 2023) show a positive and highly significant relationship with the adoption of drudgery reducing technologies. The findings are in line with the studies of Patel *et al.* (2018); Kalariya *et al.* (2024); Shahlas *et al.* (2024); Rathod *et al.* (2024).

Table 2: Correlation between profile of farmers with adoption of drudgery reducing technologies among the farmers.
(n =120)

Sr. No.	Independent variables	Correlation coefficient
X_1	**Age**	-0.138^{NS}
X_2	**Education**	0.281**
X_3	**Size of family**	0.200*
X_4	**Occupation**	0.210*
X_5	**Land holding**	0.223*
X_6	**Annual income**	0.383**
X_7	**Extension contact**	0.204*
X_8	**Social participation**	0.217*
X_9	**Risk orientation**	0.267**
X_{10}	**Knowledge**	0.229*

** Significant At 0.01 Level of Significance
* Significant At 0.05 Level of Significance
NS – Non-significant

CONCLUSION

The findings of the study reveals that one variable

have negative and non significant relationship with the adoption, some variables have positive and significant relationship with adoption while three variables have positive and highly significant relationship with adoption of treasury reducing technology. the correlation coefficient (r) indicates a negative and non-significant relationship between age and the adoption of drudgery reducing technologies. The variables size of family, occupation, land holding, extension contact, social participation, and knowledge exhibit a positive and significant relationship with the adoption of drudgery reducing technologies. Additionally, education, annual income, and risk orientation show a positive and highly significant relationship with the adoption of drudgery reducing technologies.

IMPLICATIONS

(1) Most farmers had a medium knowledge about drudgery reducing technology. Therefore, it is recommended that All India Coordinated Research Project (Women in agriculture), Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani in coordination with State Agriculture Universities, KVKs, State Agricultural Department, etc. conduct various extension activities, including field days, exhibitions, training sessions, and farmer's fairs, to engage all segments of the farming community and elevate their knowledge from medium to high levels.

(2) The study has provided valuable insights into the personal, socioeconomic, and psychological characteristics of the respondents. Implementing agencies, officers, and extension services can use this information to identify potential beneficiaries more effectively, thereby reducing the effort needed to locate them and maximizing their engagement.

(3) State Agricultural Department may avail the subsidy benefits to purchase All India Coordinated Research Project (Women in agriculture), Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani developed tools.

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CONFLICT OF INTEREST

All authors declared that they have no conflict of interest.

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