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Socio-economic and psychological profile of farmers with reference to smart agricultural practices (SAPs) of Jabalpur district, Madhya Pradesh

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Abstract

Changing scenario and uncertainty in agriculture sector, Smart Agriculture Practices (SAPs) is important for ensuring the food and livelihood security of any country and hence it is important that agriculture sector becomes advanced to change and enhance its production. Keeping in view, the above considerations and necessity of Smart agricultural practices in agriculture for present situation, the present research had been conducted in Jabalpur district of Madhya Pradesh with the objective to study the personal, socio-economic and psychological characteristics of farmers. Exploratory research design has been followed in the study. The study revealed that majority of the farmers belonged to middle age group, followed by higher per cent were male with small families and majority (61.17) fall under formal education up to primary, majority of farmers had low annual income (59.41%) followed by small and marginal land holdings (64.71) with medium farming experience (61.18%), higher per cent of farmers had belongs to medium category in extension contact, mass medium exposure information seeking behavior while farmers had medium category in economic motivation, innovative proneness decision making ability, scientific orientation and perception of farmers toward SAPs.

Keywords: SAPs (Smart agricultural practices)

Introduction

Smart agriculture refers to managing farm input by apply modern information and communication technologies to enhance the quantity and quality of agricultural produce while optimize the human labour required. Change in global scenario introduces greater uncertainty & risk among the farmers and policy- makers (FAO, 2013) [3] Rapid sustainable growth in the agriculture sector remains dynamic for creating of jobs, enhancing income and ensuring food security therefore proper policies and Smart agricultural approaches for agriculture sector is essential to improve the living standards and welfare of the people as a whole (Anonymous. 2018). Farmers adopted improved farming practices only for economic return of the farmer depends upon the farmers age, education, size of land holding, socio economic status and their progressiveness that motivates the Farmer to utilize the new agricultural technology for economic gain.

Method and Material

In this study, the investigator has attempted to describe the socio-economic and psychological variables of the farmers. The study was conducted in Jabalpur district of Madhya Pradesh. Among two blocks of Jabalpur district Shahpura and Patan were selected purposively based on the maximum irrigated area. Five villages from each block were selected, randomly. A total number of 170 respondents were selected for the present study by using proportionate random sampling. A schedule was developed to measure the adoption level after paid a deep discussion with advisory committee, experts and professionals. Available research based literature was also reviewed for the preparation of the interview schedule. The frequency of respondent was found out and expressed in percentage and respondent were categories in low, medium and high on the basis of range made by maximum and minimum score were assign to continuum.

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Result and Discussion

Table 1: Distribution of respondents according to the personal, socio-economic and psychological characteristics (N = 170)

S. No.	Variables	Categories	Frequency	Percentage
1.	Age	Young (Up to 35 years)	31	18.24
		Middle (36 - 55 years)	119	70.00
		Old (Above 55 years)	20	11.76
2.	Gender	Male	150	88.24
		Female	20	11.76
3.	Family size	Small (up to 5 members)	91	53.53
		Medium (6– 8 members)	43	25.29
		Large (above 8 members)	36	21.18
4.	Education	Illiterate	20	11.76
		Can read only	24	14.12
		Can read and write	28	16.47
		Primary	32	18.82
		Middle	30	17.65
		High school	23	13.53
		Graduate	13.	7.65
5.	Farming experience	Low (Up to 15 years)	40	23.53
		Medium (16 - 30 years)	404	61.18
		High(Above 30 years)	26	15.29
6.	Income	Low (.Up to Rs.1,50,000)	101	59.41
		Medium (Rs 1,50,001 – Rs 3,00,000)	43	25.29
		High (Above Rs 3,00,000)	26	15.29
7.	Land holding	Marginal (up to 1 ha)	39	22.95
		Small(1.01-2 ha)	71	41.76
		Semi-medium (2.01-4 ha)	35	20.58
		Medium (4.01-10 ha)	21	12.35
		Big (above 10 ha)	4	2.36
8.	Cropping pattern	below average (< 2.32 score)	31	18.24
		Average (2.32 -5.20 score)	117	68.82
		Good (> 5.20 score)	22	12.94
9.	Irrigations Facilities	Tube Well	73	42.94
		Submersible	57	33.53
		Canal	18	10.59
		Other	22	12.94
10.	Farm Power and Implements	Low (.Up to 5 score)	59	34.71
		Medium (6-9 score)	82	48.24
		High (Above 9 score)	29	17.05
11.	Extension contact	Low (Up to 10 score)	37	21.76
		Medium (11-20 score)	91	53.53
		High (Above 20 score)	42	24.71
12.	Mass media exposure	Low (up to 5 score)	30	17.65
		Medium (6-10 score)	84	49.41
		High (above 10 score)	57	32.94
13.	Information seeking behavior	Low (up to 20 score)	29	17.06
		Medium(21- 28 score)	101	59.41
		High (above 28 score)	40	23.53
14.	Economic motivation	Low (up to 13 score)	36	21.18
		Medium(14- 22 score)	90	52.94
		High (above 22 score)	44	25.88
15.	Innovative proneness	Low (up to 10 score)	36	21.18
		Medium(11-18 score)	90	52.94
		High (above 18 score)	44	25.88
16.	Decision making ability	Low (up to 7 score)	19	11.18
		Medium(8 to 14 score)	102	60.00
		High (above 14 score)	49	28.82
17.	Scientific orientation	Low (6-14 score)	25	14.71
		Medium (15-22 score)	100	58.82
		High (23-30 score)	45	26.47
18.	Perception Towards SAPs	Low (10-23 score)	34	20.00
		Medium (24-36 score)	89	52.36
		High (37-50 score)	47	27.64

Socio-economic and psychological condition of farmers

From table 1, majority of respondents come under the middle

age group (70.00%) followed by the young age group (18.24%) and old age group (11.76%). During data collection,

it was observed that middle and old age group people intended to protect their natural resources and maintain their cultural practices in cultivation of crops and also interested to maintain their sustainable agriculture as compared to young age group and its similar to the findings Satishkumar *et al.*, (2013) [8]. The result found that majority of the respondent are male (88.24) followed by the female (11.76). The result observed that majority of the respondents belong to small family size (53.53) followed by medium family size (25.29) and large family size (21.18). As found among the respondents, highest percentage of respondents passed primary school (18.82%) followed by middle school (17.65%), can read and write (16.47%), can read only (14.12%), high school (13.53%), illiterate (11.76%) and graduate (7.65) and the contradictory to the results as reported by Neethi (2014) [6]. This could reveal that the respondents were highly aware about effective use of information available to the respondent regarding climate change in the area. The result also found that the majority of the respondent comes under medium farming experience (61.18), followed by low farming experience (23.53) and high farming experience (15.29). It is also observed that majority of respondents come under the low income group (59.41%), followed by middle income group (25.29%) and high income group (15.29%). The present distribution of income group might be due to absence of full-fledged business opportunities on agriculture or farming in villages of the respondents. Non-remunerative subsistence farming/agriculture and allied activities was also a major observation during the study, followed by existence of lack of market infrastructure, market linkages and poor supply chain. The present findings were in contrast to findings as reported by Sathishkumar *et al.*, (2013) [8]. Operational land holding revealed that majority of respondents were small farmers (41.76%), followed by marginal farmers (22.95%), semi- medium farmers (20.58%), medium farmers (12.35%) and large farmers (2.36%). During the study it was observed that agricultural land become fragmented due to increase in population; thereby the very purpose of agriculture had been diverted to other non-agricultural purposes due to different interests of the owners. It is also observed that majority of respondents come under the average Cropping pattern (68.82), followed by below average (18.24), and good cropping pattern (12.94). The study found that the majority of the Irrigation Facilities of the respondent comes under the Tube well (42.94), followed by submersible (33.53), canal (10.59) and other (12.94). The result also found that the majority of Farm Power and Implements of the respondent comes under medium category (48.24), followed by low (34.71) and High category (17.05). Moreover, fast industrialization and urbanization enhanced usage of agricultural land for non-agricultural purposes. The findings were contrasted with the finding as reported by Idrisa *et al.*, (2012) [4]. The communicational characteristic exposed that majority of respondents had medium level of extension contact (53.53%), followed by high level of extension contact (24.71%) and low level of extension contact (21.76%). This signified, and as observed during the study, that respondents had we feeling to some considerable extent while performing social activities, took collective decision during mitigation and adaptation of climate change in agriculture. Similar to findings as reported by Palmurugan *et al.*, (2006) [7]. The variable exposure frequency of mass media access unveiled that majority of respondents had medium level of mass media access (49.41%) followed by high level of mass media access

(32.94%) and low (17.65%). Since the respondents were literate enough and were moderately versed with new ICT innovations and also regular contact of respondents with block level extension agents made the above distribution the finding of the study. The present findings were analogous to the findings as reported by Singh (2010) [9].

More than half of respondents had medium level of (59.41%) information seeking behaviour followed by high level (23.53%) and low level (17.06%) of information seeking behaviour. The result also found that the majority of the respondents had medium level of economic motivation (52.94%), followed by high level (25.88%) and low level (21.18%) of economic motivation. The result also found that the majority of the respondents had medium level of innovative proneness (52.94%), followed by high level (25.88%) and low level (21.18%) of innovative proneness. The result also found that the majority of the respondents had medium level of decision making ability (60.00%), followed by high level (28.82%) and low level (11.18%) of decision making ability. The result also found that the majority of the respondents had medium level of scientific orientation (58.82%), followed by high level (26.47%) and low level (14.71%) of scientific orientation. The result also found that the majority of the respondents had medium level of perception Towards SAPs (52.36%), followed by high level (27.64%) and low level (20.00%) of perception Towards SAPs. These finding are line supported by (Mohammad AA *et al.* 2018), (Chitra BM *et al.* 2018) [2] and partially supported by (Muthulakshmi, B *et al.* 2018) [5].

Conclusion

From the results of present study, it can be concluded that more percentage of farmers on medium of fatalism as it was found in result inferred that there is need to develop competencies of farmers on consequences of SAPs through the services of agricultural extensionist. Farmers need to have scientific temperament to deals with smart agricultural practices (SAPs). The farmers need to be trained on various improved technologies and provides more demonstration in adaptation of smart agricultural practices so as to build a positive impact on farming community regarding the SAPs.

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