

## Extent of Awareness of Farmers Regarding Soil Health Card in Rewa block of Rewa District (M.P.)

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### ABSTRACT

*The present study was undertaken in Rewa block of Rewa district during 2018-2019. The random sampling of one hundred twenty farmers from Rewa block was done based on number of respondents who had Soil Health Cards. The result shows that 49.16 per cent respondent exhibited medium level of awareness regarding Soil Health Card. Education, size of land holding, social participation, annual income, local personal channels, local cosmopolite channels, mass contact, risk orientation, economic motivation, scientific orientation, Innovativeness and knowledge of collecting soil sample had significant relationship with their awareness and had fair degree of association. Study reveals that Lack of knowledge about Soil Health Card is a major constraint perceived by the respondents.*

**Key words:** Soil health card; Krishi Vigyan Kendra; Awareness; Constraints;

Recent agricultural productivity is a result of improved seeds and use of chemical fertilizers. Initially a small quantity of fertilizer was capable of producing more gain due to organic manure present in the soil but in the progressive years the same quantity of fertilizer did not yield profusely like previous years. Many researches explored that balanced use of fertilizers is not adopted by the farmers. To attain sustainable and potential yield of crops, application of balance dose of fertilizers based on soil test value was felt just after the green revolution. Many advances in this line suggested for providing a permanent document to farmers to achieve the same.

In recent decade, fertilizers recommendations for different crops are made on the basis of agronomical practices and not on the soil test base. Fertility maps prepared using soil analysis, in general, are not able to give specific information for the farm of each and every farmer. Deteriorating Soil Health has been a cause of concern and that has been leading to sub optimal utilization of farming resources, optimum use of fertilizers, low addition of organic matter and non-replacement of depleted micro and macro nutrients over

the years has resulted in nutrient deficiencies and decrease in soil fertility in some parts of the country (Mukati, 2016).

In the light of the above facts a study was conducted with the following specific objectives :

1. To know the socio-personal, economical, communication and psychological characteristics of the respondents.
2. To study the extent of awareness of respondents regarding Soil Health Card (SHC).

### METHODOLOGY

The present study was conducted in Rewa district of Madhya Pradesh in 2018-19. Rewa district was selected purposively. Rewa district comprises of 9 blocks, out of which Rewa block was chosen as it has maximum number of Soil Health Card holders. Rewa block consists of 245 villages. Out of which ten villages were selected on the basis of highest coverage under Soil Health Card holders. A list of farmers of each selected villages, who are Soil Health Card holders has been selected with the help of Krishi Vigyan Kendra and other officials. From this list the farmers were selected from each village

through proportionate sampling method to make a sample of 120 farmers. Appropriate statistical techniques like frequency, percentage, average, Garrett ranking technique and mean were used in the study. Chi square test and Co-efficient of association were applied for drawing the inferences based on statistical results obtained from statistics analysis. The extent of association was calculated by using Pearson's contingency coefficient 'C' formula

$$C = \sqrt{\frac{\chi^2}{\chi^2 + N}}$$

Where,

C: Co-efficient of association

$\chi^2$  : Value of chi-square; N: total number of observation

## RESULTS AND DISCUSSION

It is important to know socio-economic background of the respondents in order to explore awareness of farmers regarding soil health card. Table 1 shows that majority of the respondents belonged to middle age group (48.33%) followed by old (27.5%) and young age group (24.16%). A higher percentage (33.33%) were found to be in up to middle education level category, had medium size of family (52.50%) had small size of land holding (37.50%), had Crop production as occupation (45.33%) had low social participation, had medium annual income (46.66%), had medium farming experience (41.66%), had medium local personal channels (47.50%) had medium cosmopolite channels (51.66%), had medium mass media exposure (52.50%), had high risk orientation (62.50%). Maximum respondents had high economic motivation (66.33%), had medium scientific orientation (45.84%), had medium Innovativeness (51.66%), had medium knowledge of collecting soil sample (44.16%). The results are in sync with *Singh et al (2018)*.

Data in Table 2 shows that the mean awareness score of respondents regarding Soil Health Card. Highest mean score of awareness was found regarding validity of SHC (MS1.28, rank I) followed by Application of organic manure for sick soil (mean score 1.24, rank II), Diagnosis of status of plant nutrients from SHC (mean score 1.20, rank III), Information about soil sample lab (MS 1.15, rank IV), Recommendations given through SHC for different crops (MS 1.12, rank V), pH value of ideal soil (MS 1.10, rank VI), Area of land for soil sample (MS 1.08, rank VII), Information about SHC

**Table 1. Socio-personal, economical, communication and psychological characteristics of the respondents (N=120)**

Variables	Categories	No.	%
Age	Young	29	24.16
	Middle age	58	48.34
	Old	33	27.50
Education	Illiterate	26	21.66
	Up to primary level	31	25.83
	Up to middle level	40	33.33
	HS & above	23	19.16
Size of family	Small	38	31.66
	Medium	63	52.50
	Large	19	15.84
Size of holdings	Marginal	31	25.83
	Small	45	37.50
	Medium	25	20.83
Occupation	Large	19	15.84
	Crop Production	55	45.83
	Crop + Veg produ.	40	33.33
Social participation	Crop+ other Produ.	25	20.83
	Low	61	50.83
	Medium	34	28.33
Income(yr)	High	25	20.84
	Low	39	32.50
	Medium	56	46.66
Farming experience	High	25	20.84
	Low	38	31.66
	Medium	50	41.66
Local personal channels	High	32	26.66
	Low	40	33.33
	Medium	57	47.50
Local cosmopolite channels	High	23	19.16
	Low	28	23.33
	Medium	62	51.66
Mass contact	High	30	25.00
	Low	26	21.66
	Medium	63	52.50
Risk orientation	High	31	25.83
	Low	20	16.66
	Medium	25	20.83
Economic motivation	High	75	62.50
	Low	22	16.17
	Medium	26	17.50
Scientific orientation	High	72	66.33
	Low	34	28.33
	Medium	55	45.84
Innovativeness	High	31	25.83
	Low	26	21.66
	Medium	62	51.66
Knowledge of soil sampling	High	32	26.66
	Low	36	30.00
	Medium	53	44.16
	High	31	25.83

**Table 2. Extent of awareness of respondents regarding Soil Health Card (SHC)**

Components	Awareness Level			Total score	Mean score	Rank
	Complete	Partial	Not at all			
Information about SHC	36	55	29	127	1.05	VIII
Judicious combination of fertilizers for major nutrients	25	50	45	100	0.83	XIX
Area of land for soil sample	34	62	24	130	1.08	VII
Information about soil sample lab	40	58	22	138	1.15	IV
Agencies involved in SHC	27	68	25	122	1.01	X
Diagnosis of status of plant nutrients from SHC	40	65	15	145	1.20	III
Recommendation given through SHC for different crops	38	59	23	135	1.12	V
Application of organic manure for sick soil	44	61	15	149	1.24	II
PH value of ideal soil	31	70	19	132	1.1	VI
Depth of soil taken for soil testing	28	50	42	106	0.88	XVI
Information mentioned in soil sample bag	34	56	30	124	1.03	IX
Nitrogen content in neem coated urea	29	62	29	120	1	XI
Phosphorus content in SSP	25	63	32	113	0.94	XIII
Potassium content in MOP	33	48	39	104	0.86	XVII
Parameters of soil health recommended through SHC	28	40	52	96	0.8	XX
Validity of SHC	52	50	18	154	1.28	I
Unit of fertilizer mention in SHC	27	60	33	114	0.95	XII
Objective of SHC	25	60	35	110	0.91	XIV
Implements required for soil sampling	26	50	44	102	0.85	XVIII
Assessment level of nutrients in soil	20	67	33	107	0.89	XV

(MS 1.05, rank VIII), Information mentioned in soil sample bag (MS 1.03, rank IX), Agencies involved in SHC (MS 1.01, rank X), Nitrogen content in neem coated urea (MS 1.00, rank XI), Unit of fertilizer mention in SHC (MS 0.95, rank XII), Phosphorus content in SSP (MS 0.94, rank XIII), Objectives of SHC (MS 0.91, rank XIV), Assessment level of nutrients in soil (MS 0.89, rank XV), Depth of soil taken for soil testing (MS 0.88, rank XVI), Potassium content in MOP (MS 0.86, rank XVII), Implements required for soil sampling (MS 0.85, rank XVIII) and Judicious combination of fertilizers for major nutrients (MS 0.83, rank XIX). Similar results were reported by Singh *et al.* (2018). Least score was observed, regarding parameters of soil health recommended through SHC (MS 0.80, rank XX).

**Table 3. Distribution of the respondents according to their overall awareness of Soil Health Card**

Extent of awareness	No.	%
Low	32	26.66
Medium	59	49.16
High	29	24.16
Total	120	100

Data in Table 3 shows overall awareness of respondents regarding Soil Health Card. It shows that

out of total, a higher number of respondents exhibited medium level of awareness regarding Soil Health Card followed (49.16%) by low level of awareness regarding Soil Health Card (26.66%) and only showed high awareness (24.16%) regarding Soil Health Card.

**Table 4. Association between profile of respondents and their awareness regarding soil health card**

Characteristics	$\chi^2$	C	Degree of association
Age	6.32	-	Negligible
Education	15.26	0.33	Fair
Size of family	06.62	-	Negligible
Size of landholding	14.70	0.32	Fair
Occupation	06.96	-	Negligible
Social participation	22.94	0.39	Fair
Annual income	09.98	0.29	Fair
Farming experience	05.07	-	Negligible
Local personal channels	09.86	0.29	Fair
Local cosmopolite channels	13.87	0.32	Fair
Mass media exposure	21.35	0.36	Fair
Risk orientation	22.94	.041	Fair
Economic motivation	11.55	0.30	Fair
Scientific orientation	13.72	0.31	Fair
Innovativeness	14.98	0.32	Fair
Knowledge of soil sampling	15.16	0.33	Fair

Table 4 depicts the relationship between socio

**Table 5. Constraints perceived by the respondents in Soil Health Card Scheme (SHC)**

Constraints	No.	%	Rank
Lack of knowledge about Soil Health Card	112	93.33	I
Lack of trust in the information given in Soil Health Card	105	87.5	II
Non availability of information related to Soil Health Card at the right time	98	81.66	III
Problem in making Soil Health Card	92	76.66	IV
Lack of proper training for awareness of Soil Health Card	85	70.83	V
Difficulty in calculating fertilizer dose on the basis of nutrient status of soil	75	62.5	VI
Non availability of extension officers at proper time	55	45.83	VII
Other personal constraints associated with illiteracy / low education	40	33.33	VIII

economic and personal profile of the respondents with their awareness regarding Soil Health Card. The characteristics namely, education, size of land holding, social participation, annual income, local personal channels, local cosmopolite channels, mass contact, risk orientation, economic motivation, scientific orientation, Innovativeness and knowledge of collecting soil sample had significant relationship with their awareness and had fair degree of association.

The result also depict that age, size of family, occupation, farming experience of the farmers had non-significant association and established negligible degree of association with awareness regarding Soil Health Card.

The findings regarding association of age, local personal channels, local cosmopolite channels, mass media exposure, scientific orientation, innovativeness were supported by *Raaj and Jahanara (2017)*, education, occupation, social participation, farming experience by *Charel et al. (2018)*, size of family and size of land holding, annual income, risk orientation, economic motivation by *Kumar et al. (2012)*.

The Data regarding constraints in awareness regarding Soil Health Card as perceived by soil health card holders is presented in Table 5. It reveals that Lack

of knowledge about Soil Health Card (93.33%, rank I), Lack of trust in the information given in Soil Health Card (87.5%, rank II), Non availability of information related to Soil Health Card at the right time (81.66%, rank III), Problem in making Soil Health Card (76.66%, rank IV), Lack of proper training for awareness of Soil Health Card (70.83%, rank V), Difficulty in calculating fertilizer dose on the basis of nutrient status of soil (62.5%, rank VI), Non availability of extension officers at proper time (45.83%, rank VII) and Other personal constraints associated with illiteracy / low education (33.30, rank VIII) are major constraints perceived by respondents.

## CONCLUSION

It was found that there is an urgent need to educate farmers regarding Soil Health Card and its utility as majority of respondents fall within medium range of awareness. Removal of constraints like lack of knowledge about Soil Health Card may accelerate the understanding and utilization of recommendations based on test value. Use of various extension tools like training, soil awareness campaign, printed literature, kisan mobile advisory and social media may play an important role to enhance proper and optimum use of recommendations.

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