

Awareness and correlates between perception and utility of Soil Health Card

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ABSTRACT

The present research study was conducted in Shrigonda and Parnertehsilsof Ahmednagar district of Maharashtra State. Five villages from each tehsils, thus, ten villages were selected on the basis of highest number of soil health card distribution, with sample size of 120 respondents which were selected randomly. The data were collected on awareness and correlates of soil health card with their utility. The results of study revealed that a majority of the soil health card holders had medium level of awareness, followed by meagre percent of respondents had high and low level of awareness, respectively. Further, it was observed that the selected variables viz., education, land holding, annual income, social participation, extension contact, innovativeness and awareness were positive and significant relationship with perception about utility of soil health card. Whereas, the variables gender and farming experience had positive and non-significant. The independent variable age had negative and non-significant relationship with the perception of respondents about utility of soil health card.

Key Words: Awareness, Perception, Soil Health Card, Correlation, Utility

INTRODUCTION

Soil Health Card Scheme

Soil Health Card Scheme was started on 19 February, 2015 at Suratgarh in Shri-ganganagr district of Rajasthan with the aim to make available soil health cards to all the farmers in the country for sustainable steps in crop productivity and without deterioration of soil health. The SHC was prepared in 14 local languages. Soil health card mobile app was launched on World Soil Day 5th December 2017 in Jhajjar, Haryana. Soil health card scheme helps to farmers to report nutrient deficiency with fertilizer application practices.

The theme of the soil health card scheme- 'Swath Dharaa, KhetHarra', Healthy Earth, Green Earth. The Department of Agriculture, Cooperation and Farmer's Welfare is implementing this scheme under the Ministry of Agriculture.

Objectives of Soil Health Card Scheme

1. To supply soil health cards to all farmers in a

time period of three years, to recognize and provide a basis to address the nutrients deficiencies status of that specific area.

2. To diagnose soil fertility and balance use of fertilizer based on the results of soil test values.
3. To improve and encourage soil test-based nutrient management by manipulative fertilizer recommendation in targeted districts.
4. To build the capacities of district and state level staff and progressive farmers for advancement of balanced and integrated nutrient management.
5. To conduct demonstrations with diversified crops to measure benefits of the improved nutrient management practices in terms of increased crop yield and economic feasibility of farmers.
6. To create or generate a data base for future research.

7. To balanced use of fertilizer, reclamation of problematic soils, increase agricultural production and boost of economical income of the Indian farmers.

Soil Health Card

Soil health card is a step-by-step process for guiding the farmers in determining soil health indicators and to develop soil health card. The results of regular farmer meetings enclose a user-friendly, do-it-yourself tool to measure soil health as well as mutually beneficial discussion among the farmers and technical experts.

SHC is a printed report that gives the idea about the current status of nutrients in soil of farmers. It comprises the status of soil with detailed 12 parameters, specifically Nitrogen, Phosphorus, Potassium (Macro-nutrients), Sulphur (Secondary nutrient) and Micro nutrients Zinc (Zn), Iron (Fe), Copper (Cu), Manganese (Mn) and pH, EC (Electrical conductivity), O.C. (Organic Carbon) are physical parameters. On the basis of soil health card reports it indicates fertilizer recommendations and appropriate improvement programme if requisite to the farm. Soil health card is a report of current soil fertility status and provides a recommendation on soil test report about use of fertilizers and amendments to be essential for crop, variety, on site specific area of application, necessary fertilizer or improvements etc. It provides the current status of the soil health. Use of SHC is one of the paths for attaining the sustainable agriculture production and productivity.

With the above backdrop, the present investigation was conducted with specific objectives- To access the awareness and to study the relationship between personal, social, economical, communicational and psychological characteristics and perception of respondents about utility soil health card.

METHODOLOGY

The present investigation was conducted in Ahmednagar district of Maharashtra. On the basis of the highest number of soil health cards were distributed, two tehsils namely, Shrigonda and

Parner were selected for the present research study. Five villages were selected from each tahsil, thus, total ten villages were selected for the study on the basis of highest number of soil health cards distribution. From each village 12 farmers and thus, total 120 respondents selected for the study by random sampling method. The Ex-post facto research design was adopted. For assessment of awareness, it was consider that they were aware about soil health card and its benefits. Feedback from farmer was recorded as 'Yes' and 'No' and score of 1 and 0 was given, respectively. The farmers were grouped into three categories specifically low, medium and high by using of Mean score and Standard deviation.

Allowing for this vision in mind, the effort was also made to discover the association between the independent and dependent variables that have been chosen. The correlation co-efficient was used to determine the relationship (r) by Karl Pearson's Co-efficient of Correlation.

RESULTS AND DISCUSSION

Awareness

Awareness is the ability to directly know and perceive, to sensation or to be aware of events, objects, thoughts, emotions or sensory pattern. For the present study, it was operationalized as the awareness level of soil health card holders about the utility of soil health card.

From Table 1 regarding statement wise distribution of respondents, it was revealed that a large majority of the soil health card holders (90.00%) agreed 'yes' with the statement SHC is useful to understand fertility status of soil. A large majority of the soil health card holders (94.16%) agreed with the statement SHC issued after testing of soil sample. A majority i.e. 80.84 per cent per cent of respondents agreed with the statement online delivery of SHC with the help of kisan portal/ National SHC portal. A great majority of respondents (84.16%) agreed with the statement SHC useful to adopt Integrated Nutrient Management. More than three-fourth of the respondents (78.33%) agreed with the statement you

follow the recommended dosage of fertilizer as per SHC report. A majority of the respondents (85.00%) agreed with the statement it is important to read instructions given on Soil Health Card.

*Table 1
Distribution of the respondents according to their level of awareness of soil health card*

Sr. No.	Statement	Yes	No
1	SHC is useful to understand fertility status of soil	108 (90.00)	12 (10.00)
2	SHC issued after testing of soil sample	113 (94.16)	7 (5.84)
3	SHC provides online delivery of with the help of Kisan portal/ National SHC portal	97 (80.84)	23 (19.16)
4	SHC useful to adopt Integrated Nutrient Management	101 (84.16)	19 (15.84)
5	You follow the recommended dosage of fertilizer as per SHC	94 (78.33)	26 (21.67)
6	It is important to read instructions given on Soil Health Card	102 (85.00)	18 (15.00)
7	SHC help to reduce the cost of cultivation	98 (81.67)	22 (18.33)
8	SHC help in increasing agricultural productivity	103 (85.84)	17 (14.16)
9	The results of SHC are (recommendation/ instruction) discussed among farmers in village	87 (72.5)	33 (27.50)
10	You know deficiency of nutrient in your land according to SHC reports	97 (80.83)	23 (19.16)
11	SHC report includes information on primary, secondary and other elements	99 (82.5)	21 (17.5)
12	SHC report includes information on salinity, pH, O.C and other elements of soil	95 (79.16)	25 (20.84)

(SA = Strongly Agree, A = Agree, UD = Undecided, D = Disagree, SD = Strongly Disagree)

(Figures in parenthesis indicates percentage)

A majority of the respondents (81.67%) agreed with the statement SHC help to reduce the cost of cultivation. A majority of the respondents (85.84%) agreed with the statement SHC help in increasing agricultural productivity. Majority of the respondents (72.50%) agreed with the statement the results of SHC (recommendations/ instructions) discussed among farmers in village. Majority of the

respondents (80.84%) agreed with the statement you know the deficiency of nutrient in your land according to SHC report. Majority of the respondents (82.50%) agreed with the statement SHC report include information on primary, secondary and other elements. Majority i.e. 79.16 per cent of the soil health card holders agreed with the statement SHC reports include information on salinity, pH, O.C and other elements of soil.

*Table 2
Distribution of the respondents according to their level of awareness*

Sr. No.	Awareness	Respondents (N=120)	
		Frequency	Per cent
1	Low (upto 8)	25	20.83
2	Medium (9 to 11)	68	56.67
3	High (12 and above)	27	22.50
	Total	120	100.00
		Mean = 9.85	

It was observed from the data presented in Table 2 that majority of the soil health card holders (56.67%) had medium level of awareness, however, 22.50 per cent and 20.83 per cent of the respondents had high and low level of awareness, respectively. From the table it was concluded that majority of respondents belonged to medium level of awareness. It means that majority of respondents who aware about soil health card. The results of the present research study are in line with Mukati (2016), Chouhan (2015) and Reddy (2017).

Relationship between Independent Variable with Perception of Farmers about Utility of Soil HealthCard

The correlation coefficient (r) between perceptions with various independent variables is presented in Table 3.

Age and Perception

The correlation coefficient (r=-0.008NS) indicated that the relationship between age and perception of soil health card holders was found non-significant.

This finding is dependable with the finding of Chand (2012) and Dharmendra (2016).

Gender and Perception

The correlation coefficient (r=0.078 NS) revealed that relationship between gender and perception of soil health card holders was found positive and non-significant. Therefore, it can be concluded that the gender of respondents had no noticeable impact on their level of perception about utility of soil health card. This finding is reliable with the finding of Oladele (2015).

Education and Perception

The correlation coefficient (r=0.257**) indicated that the education and their perception of soil health card holders had found positive and highly significant. Therefore, it is concluded that higher the education level of soil health card holders, perception also highly favourable. They can read the relevant literature and grasp modern techniques of soil health card. All this might have resulted in higher correlation between perception level and education. This finding is consistent with the finding of Patidar and Patidar (2015) and Mukati (2016).

*Table 3
Relationship between Personal, Social, Economical, Communicational and Psychological Characteristics of Respondents with their Perception*

Sr. No.	Independent variables	Correlation coefficient (r)
1	Age	-0.008 ^{NS}
2	Gender	0.078 ^{NS}
3	Education	0.257**
4	Land holding	0.234*
5	Farming experience	0.173 ^{NS}
6	Annual income	0.193*
7	Social participation	0.273**
8	Extension contacts	0.230*
9	Innovativeness	0.196*
10	Awareness	0.390**

** = Significant at 1 per cent level of probability NS = Non Significant
* = Significant at 5 per cent level of probability

Land holding and perception

The data in the Table 3 revealed that there was a positive and statistically significant correlation (r = 0.234*) between size of land holding

and perception of soil health card holders about utility of soil health card.

This clearly shows that increase in land holding, also increases the level of perception soil

health card holders with larger size of land holding could afford to take benefits of soil health card. Due to which land holding might be recognized positive and highly significant relationship with perception. These results are in line with the finding of Patidar and Patidar (2015), Dharmendra (2016) and Kumari (2016).

Farming experience and perception

The data in the Table 3 revealed that correlation coefficient ($r=0.173$ NS) between farming experience and perception level of respondents about utility of soil health card was found positive and statistically non-significant.

From the result, it can be concluded that the farming experience of respondents had no noticeable impact on their perception about utility of soil health card. This result is consistent with the findings of Dilipsinh (2015) and Nagaraj (2015).

Annual income and perception

The data in the Table 3 revealed that there was a positive and highly significant correlation ($r = 0.193^*$) between annual income and perception of farmers about soil health card. From the result, it can be concluded that the annual income determines the economic status of the soil health card holders. This helps in developing the perception of farmers about soil health card. Therefore, it could establish positive and significant relationship with perception. The findings were similar with the findings of Dharmendra (2016) and Kumari (2016).

Social participation and perception

The data in the Table 3 indicated that there was a positive and statistically significant correlation ($r = 0.273^{**}$) between social participation and perception of farmers about utility of soil health card. Better social participation of soil health card holders would have allowed them to contact various sources of information for increasing the perception of farmers about utility of soil health card. The findings of the study were similar with findings of Mukati. (2016) and Rathor (2018).

Extension contact and perception

The data in the Table 3 reported that there

was a positive and highly significant correlation ($r = 0.230^*$) between extension contact and perception of farmers about utility of soil health card. It is obvious that soil health card holders had high level of contact with extension agency are generally favourable to obtain more information, skills and other aspects. Thus, in this study positive and highly significant relationship had been established between extension contact with extension agency and perception. The results of the study were similarly with Mukati (2016) and Rathor (2018).

Innovativeness and perception

The data in the Table 3 revealed that innovativeness was positive and highly significant correlation ($r=0.196^*$) with perception of farmers about utility of soil health card.

From the result, it can be concluded that innovativeness is an important socio-psychological orientation of an individual and it provides strong support to adopt new and updated technique. The finding was in line with findings of Sahare (2010), Hingonekar (2011) and Kadam *et al.* (2012).

Awareness and perception

The data in the Table 3 indicated that awareness was positive and highly significant correlation ($r = 0.390^{**}$) with perception of farmers about utility of soil health card. It can be concluded that the awareness of respondents had increases the perception level also increases.

CONCLUSIONS

The results of study revealed that a majority of the soil health card holders had medium level of awareness, followed by meager per cent of respondents had high and low level of awareness, respectively. Further, it was observed that the selected variables viz., education, land holding, annual income, social participation, extension contact, innovativeness and awareness were positive and significant relationship with perception about utility of soil health card. Whereas, the variables gender and farming experience had positive and non-significant. The independent variable age had negative and non-significant relationship with the perception of respondents

about utility of soil health card. The study depicted that education, land holding, annual income, social participation, extension contact, innovativeness and awareness had a positive and significantly correlation with their perception about utility of soil health card. Therefore, these variables shall be taken into consideration while implementation of soil health card scheme.

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