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Knowledge and attitude of the beneficiaries farmers towards soil health card

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Abstract
The present study was undertaken in the purposively selected Aurangabad district of Marathwada region with two talukas namely Vaijapur and Aurangabad from each talukas ten villages were selected randomly and five soil health card beneficiaries were selected randomly from each of the village thus a sample size of hundred respondents was selected for the present study. The respondents were interviewed with the help of structured schedule prepared for the survey. To measure attitude the scale developed by Patel (2013) [4] was used with slight modification. It is concluded that the respondents were having middle age with higher secondary education status, medium to high land holding and medium social participation, use of information sources, annual income, scientific orientation, innovativeness and cosmopolitness. It is concluded that fifty per cent of the respondents had favorable to most favorable attitude.

Keywords: Knowledge, Attitude, Beneficiaries & Soil health Card

Introduction
Soil is a primary element required for farming as it provides nutrients to the plant. Proportion and quantity of macro and micro nutrients refers to the soil health. Healthy soil contains all the elements for growth and development of crop and, As far as agriculture production is concerned, soil health plays a vital role in ensuring sustainable production with optimizing the utilization of fertilizers and reducing its wastage.

Soil testing gives an answer for poor performance of crop and solution to overcome the same. Soil testing helps to recommend chemical fertilizers more judiciously in combination with organic manures and bio fertilizers and hence balanced nutrition to crop. Only specific fertilizers and required amount of specific nutrients along with organic manures such as farmyard manures, green leaf manures and vermicompost to be used based on soil test results for sustainable soil and plant health with optimum crop yield and quality.

To avoid deterioration of soil in long run and visualizing the importance of balance nutrient in crop production, government of Maharashtra commenced soil health card. The SHC is a simple document, which contains useful data on soil, based on chemical analysis of the soil to describe soil health in terms of its nutrient availability and its physical and chemical properties. Soil health card can be used to optimize the use of fertilizers in the integrated nutrient management (INM) system. The Soil Health Card System brings together the scientific community in the field of agriculture, the information repository of latest tools, techniques and cropping practices, the farmers and the Government for the economic upliftment of the people at large.

The objective of soil testing is to access the fertility status of the soil and furnish soil test based fertilizer recommendation to farmers for obtaining optimum yields. Farmer can verify the soil specimen through scientists who examine the mineral composition in the soil. Based on the report, they can provide the fertilizer with appropriate mineral percentage which helped in soil enrichment and also reduced the erosion of the land in great extent. Soil health card is viewed as an entirely safe technique to the environment.

Since, change in knowledge and attitude preceded acceptance and application of an innovation, it is therefore, important to find out the factors responsible for positive or negative disposition associated with farmer towards the usefulness and application of soil health card. Keeping this view, the present study "Attitude of beneficiary farmers towards soil health card" was undertaken.

Objectives

1. To study the profile of the farmers.
2. To study the knowledge of the farmers regarding soil health card.
3. To study the attitude of farmers towards soil health card.

Methodology

The present study was undertaken in the purposively selected Aurangabad district of Marathwada region with two talukas namely Vaijapur and Aurangabad from each talukas ten villages were selected randomly and five soil health card beneficiaries were selected randomly from each of the village thus a sample size of hundred respondents was selected for the present study. The respondents were interviewed with the help of structured schedule prepared for the survey. To measure attitude the scale developed by Patel (2013) was used with slight modification. The data were analyzed with the help of frequency, percentage mean and standard deviation.

Findings

The findings of the study are given below

Socio-personal characteristics

It is evident from the data in Table 1 that majority (42.00 per cent) of the respondents were in middle age group of 36 to 55 years, followed by 30.00 per cent of the respondents were in young age up to 35 years and only 28.00 per cent were in the old age group above 56 years.

The data further indicated that 29.00 per cent of respondents were educated up to higher secondary level, followed by 26.00 per cent were educated up to secondary school. Up to 10.00 per cent respondents educated up to college level and 18.00 per cent and 17.00 per cent of respondents were educated up to primary level of education and were illiterate respectively.

It was observed from Table-1 that 45.00 per cent of the respondents possessed medium land holding (2.1 to 4 ha), followed by 32.00 per cent having semi medium (4.1 to 10 ha) size of land holding. 20.00 per cent and 3.00 per cent of respondents possessed small to marginal land holding respectively. None of respondents possessed big land holding (above 10 ha).

With regards to social participation majority of the respondents were under medium social participation (45.00 per cent), followed by 38.00 per cent of the respondents having low social participation and only 17.00 per cent of the respondents having high social participation.

The data presented in Table 1 indicates that more than half (52.00 per cent) of the farmers has medium level of mass media exposure, followed by 14.00 per cent with high level of mass media exposure and 34.00 per cent had a low level of mass media exposure.

It is evident from the data presented in Table 1 indicates that 52.00 per cent of the respondents were having medium extension contact followed by high level 36.00 per cent. Only 12.00 per cent of the respondents were having low extension contacts.

The data with regards to annual income revealed that more than half of respondents (67.00 per cent) were in medium annual income of (Rs100001 to Rs 300000/-). While, 25.00 per cent and 8.00 per cent of the respondents were found in high (Rs 300001 & above) and low annual income category (up to Rs 100000/-) respectively.

The results from Table 1 indicated that majority 61.00 per cent of the farmers had medium level of scientific orientation, followed by 21.00 per cent and 18.00 per cent had high and low level of scientific orientation respectively.

With regards to innovativeness the majority 70.00 per cent of the respondents had medium level of innovativeness followed by 18.00 per cent and 12.00 per cent of the respondents high to low level of innovativeness respectively.

The data with regards to cosmopoliteness, majority 65.00 per cent of the respondents had medium level of cosmopoliteness followed by 23.00 per cent low level of cosmopoliteness and 12.00 per cent respondents had high level of cosmopoliteness.

The results of the study are in consistent with Patel GG, *et al* (2017) [3] and in line with Monika Jaiswal & Ajeet Singh (2018) [2].

It is concluded that majority of the farmers belonged to middle age group. The possible reason for this might be that up to reaching this age, they have better experience and have enough maturity and understanding to take own decision for better farming, at the same time middle age is considered as productive time period in the life of an individual. The level of education of the respondents was found to be good. The probable reason may be better awareness about the importance of education and educational facilities available in villages. Majority of the respondents possessed medium land holding. The probable reason may be due to division of land as their generation progresses. Majority of the respondents had medium social participation and majority of the respondents had medium level of mass media exposure. The probable reason for such situation may be moderate education and interest. It is concluded that majority of the respondents had high and medium extension contacts with the extension personnel who helped the respondents to acquire detail knowledge about agriculture technology. Majority of the respondents observed under medium income group i.e. Rs Rs100001 to 30000/- per annum. Majority of the respondents fall under medium level of scientific orientation, mass media exposure, medium level of cosmopoliteness and had medium level of innovativeness.

Aspects wise knowledge level

It is evident from the data in Table 2 that 41.00 per cent of the respondents had medium level of knowledge regarding soil sampling and soil testing, followed by 35.00 per cent of them had low knowledge and 24.00 per cent of the respondents had high knowledge level.

The data further indicates that 51.00 per cent of the respondents had knowledge regarding usefulness of soil health card, followed by 42.00 per cent has low knowledge and 7.00 per cent had high knowledge regarding usefulness of soil health card.

The data regarding the content of soil health card majority of the respondents 50.00 per cent has good knowledge, followed by 37.00 per cent in low knowledge and 13.00 per cent of the respondents had high knowledge regarding the content of soil health card.

With regards to adoption of soil health card only 33.00 per cent of the respondents adopted the soil health card results actually. Nearly still sixty seven per cent respondents has not adopted the soil health card.

Knowledge level

The data regarding level of knowledge of soil health card by the farmers the results indicated that majority 49.00 per cent of the respondents had medium level of knowledge regarding soil health card , followed by 39.00 per cent of them had low level of knowledge regarding soil health card. While, only

12.00 per cent had high level of knowledge regarding soil health card.

The findings are in consistent with the results found by Archana, SS and Balasubramanian R (2019) [1].

It is concluded that majority of the respondents had medium level of knowledge it may be due to lot of publicity regarding soil health card.

Item wise attitude of the respondents towards soil health card

The data from the table 4 revealed that majority (63.00 per cent) of the respondents were either strongly agreed to agree with the statement that "I recognized that S.H.C is worth for balance use of fertilizer". Majority (62.00 per cent) of the respondents were either agreed to strongly agreed with the statement that "I believe that soil health card program is blessing for the farmer " and "I trust that soil health card is useful and save input cost for farmers". Majority (53.00 per cent) of the respondents had favourable and strongly favourable belief towards the statement that "I feel that S.H.C useful scheme to understand fertility status of the soil". Majority (52.00 per cent) of respondents either strongly agree to agreed with the statement "I realize that S.H.C is useful to know the chemical properties of the soil influence the soil production". (53.00 per cent) of the respondents were either strongly agreed to agreed with the statement "I recognized that S.H.C is useful to adopt integrate nutrient management practices in the crops". (34.00 per cent) of the respondents were either agreed to strongly agreed with the statement **"**I feel that S.H.C program is not useful for illiterate farmers, (39.00 per cent) of the respondents were either agreed to strongly agreed with the statement **"**I trust that S.H.C is useful scheme for famers".

Overall attitude of farmers towards soil health card

The data given in Table 5 illustrated that (45.00 per cent) of respondents had unfavorable attitude towards soil health card. While, 35.00 per cent respondents had favorable attitude and 20.00 per cent of respondents had most favorable attitude towards soil health card.

The findings are in consistent with the results found by Archana, SS and Balasubramanian R (2019) [1].

Conclusions

1. It is concluded that the respondents were having middle age with higher secondary education status, medium to high land holding and medium social participation, use of information sources, annual income scientific orientation, innovativeness and cosmopolitness.
2. It is concluded that majority of the respondents had medium level of knowledge.
3. It is concluded that fifty per cent of the respondents had favorable to most favorable attitude.
4. It is concluded that less than thirty five per cent of the respondents adopted SHC.

Table 1: Distribution of the respondents according to Socio-personal characteristics

Sr. No	Characteristics	Farm pond beneficiaries (n = 100)	
1	**Age**	**Frequency**	**Per cent**
1	Young (Up to 35 years)	30	30.00
2	Middle (36 to 55 years)	42	42.00
3	Old (56 & above years)	28	28.00
2	**Education**		
1	Illiterate	17	17.00
2	Primary	18	18.00
3	Secondary	26	26.00
4	Higher secondary	29	29.00
5	College level	10	10.00
3	**Land holding**		
1	Marginal (up to 1ha)	3	3.00
2	Small (1.1 to 2 ha)	20	20.00
3	Medium (2.1 to 4 ha)	45	45.00
4	Semi medium (4.1 to 10 ha)	32	32.00
5	Big (above 10.1 ha)	0	0.00
4	**Social participation**		
1	Low (up to 2)	38	38.00
2	Medium (3 to 7)	45	45.00
3	High (8 and above)	17	17.00
5	**Mass media exposure**		
1	Low (up to 4)	34	34.00
2	Medium (5 to 16)	52	52.00
3	High (17 and above)	14	14.00
6	**Extension contact**		
1	Low (up to 2)	12	12.00
2	Medium (3 to 7)	52	52.00
3	High (8 and above)	36	36.00
7	**Annual income**		
1	Low (up to 1.0)	8	8.00
2	Medium (1.1 to 3)	67	67.00
3	High (3.1 and above)	25	25.00
8	**Scientific orientation**		
1	Low (up to 12)	18	18.00
2	Medium (13 to 36)	61	61.00
3	High (37 and above)	21	21.00
9	**Innovativeness**		
1	Low (up to 4)	12	12.00
2	Medium (5 to 11)	70	70.00
3	High (12 and above)	18	18.00
10	**Cosmopolites**		
1	Low (up to 2)	23	23.00
2	Medium (3 to 10)	65	65.00
3	High (11 and above)	12	12.00

Table 2: Distribution of the respondents according to their overall knowledge on each aspects of SHC

Sr. No	Knowledge aspects	Category	Frequency	Per cent
A	Soil sampling and soil testing	Low (up to 33.33)	35	35.00
		Medium (33.34-66.66)	41	41.00
		High (Above 66.66)	24	24.00
B	General knowledge about soil health card	Low (up to 33.33)	42	42.00
		Medium (33.34-66.66)	51	51.00
		High (Above 66.66)	7	7.00
C	Content of SHC	Low (up to 33.33)	37	37.00
		Medium (33.34-66.66)	50	50.00
		High (Above 66.66)	13	13.00
D	Extent of adoption of soil health card		33	33.00

Table 3: Knowledge level of farmers regarding soil health card

Sr. No	Category	Respondents	
		Frequency	Per cent
1	Low (up to 6)	39	39.00
2	Medium (7-10)	49	49.00
3	High (11 and Above)	12	12.00

Table 4: Attitude of farmers towards soil health card

Sr. No.	Statement	SA %	A %	UD %	DA %	SDA %
1	I believe that soil health card program is blessing for the farmer	20.00	42.00	13.00	10.00	15.00
2	I realize that S.H.C is useful to know the chemical properties of the soil which influence the soil/ crop production	24.00	28.00	15.00	16.00	17.00
3	I trust that soil health card is useful and save input cost for farmers	14.00	50.00	9.00	18.00	9.00
4	I trust that S.H.C is useful scheme for famers	8.00	31.00	14.00	25.00	22.00
5	I feel that S.H.C program is not useful for illiterate farmers	18.00	16.00	10.00	21.00	35.00
6	I feel that S.H.C useful scheme to understand fertility status of the soil	26.00	32.00	9.00	8.00	25.00
7	I realised that S.H.C is worth for balance use of fertilizers	30.00	33.00	7.00	10.00	20.00
8	I recognized that S.H.C is useful to adopt integrate nutrient management practices in the crops	20.00	33.00	5.00	9.00	33.00

Table 5: Overall attitude of farmers towards soil health card

Sr. No	Category	Respondents	
		Frequency	Per cent
1	Unfavourable	45	45.00
2	Favourable	35	35.00
3	Most favourable	20	20.00

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