www.ThePharmaJournal.com

The Pharma Innovation

Pushpak Patel
M.Sc. (Ag.) Research Scholar,
(Department of Agricultural
Extension and Communication),
Rajmata Vijayaraje Scindia
Krishi Vishwa Vidyalaya,
Gwalior, Madhya Pradesh, India

Dr. Shobhana Gupta
Head of Department
(Department of Agricultural
Extension and Communication)
College of Agriculture, Gwalior.
Rajmata Vijayaraje Scindia
Krishi Vishwa Vidyalaya,
Gwalior, Madhya Pradesh, India

Ravi Shinde
Ph.D. Scholar, (Department of
Agricultural Extension and
Communication) Rajmata
Vijayaraje Scindia Krishi Vishwa
Vidyalaya, Gwalior, Madhya
Pradesh, India

Corresponding Author:
Pushpak Patel
M.Sc. (Ag.) Research Scholar,
(Department of Agricultural
Extension and Communication),
Rajmata Vijayaraje Scindia
Krishi Vishwa Vidyalaya,
Gwalior, Madhya Pradesh, India

Study on profile and constraints faced by beneficiaries farmers in utilization of soil health card in Surguja district of Chhattisgarh

Pushpak Patel, Dr. Shobhana Gupta and Ravi Shinde

Abstract
Soil testing is considered a useful tool for making fertilizer recommendation for making fertilizer recommendations for various crops and cropping sequences as well as for reclamation of problem soil. The study was conducted in two blocks of Surguja district of Chhattisgarh in 2019-20, with 150 soil health card holder farmers. The findings related to socio personal characteristics of the respondents highlighted that most of the respondents were belonged to middle age group (49.33%), were educated up to 5th class and had farming experience between the 13 years to 32 years (50.67%). findings regarding socio-economic characteristics of the respondents showed that most of them were belonged to the small category of the farmers (32.67%) and had the low level of annual income up to ₹1,00,000 (34.67%). Findings regarding socio- communication characteristics of the respondents showed that most of them were medium level of extension contact (48.00%), were medium level of social participation (51.33%), and were medium level of mass media exposure (49.33%). Similarly, findings regarding Phycological characteristics of the respondents showed that most of them were medium level of innovativeness (50.00%) and were medium level of scientific orientation (46.00%). Among constraints, difficulty in calculating fertilizer dose based on nutrient status of soil was the major constraint faced by majority of the respondents.

Keywords: Soil health card, profile characteristics and constraints of beneficiaries farmers

Introduction

The Government of India started a scheme called "Soil Health Card" (SHC) from Sri-Ganganagar district of Rajasthan on 19 February 2015. Under the scheme, the government intends to give soil health cards to farmers as part of the programme, which will provide crop-specific guidelines for nutrients and fertilizers needed for individual farms, enabling farmers to increase output by using inputs more wisely. All soil samples are to be tested in various soil testing labs across the country. Following that, the experts would assess the soil's strengths and vulnerabilities (micronutrient deficiency) and propose solutions. The result and suggestion will be displayed in the cards.

Soil is a medium for plant growth and development that leads to crop productivity. Crop productivity depends on many factors and fertility is major amongst all. Soil fertility has direct relation with crop yields, provided other factors are in optimum level. Soil fertility must be periodically estimated as there is continuous removal of macro and micronutrients by crop intensively grown in every crop season. Continuous cropping system for periods without adequate supply of additional amount of nutrients resulted into possibility of deficiencies of essential nutrients in due course of time. The fertility problem cannot be solved merely by supply of plant food elements, but their deficient management has also to be given a due thought as fertilizer being one of costliest input required; hence balanced scheduling for optimizing dose is necessary to get maximum returns. Major constraints faced by the farmers in adoption according to soil health card were difficulty in having knowledge about the importance of micronutrients, the prices of fertilizers being too high and on non -availability of organic manure (Naruka *et al.,* 2018) [3].

The soil health card scheme brings together the scientific community in the field of agriculture, the information repository of latest tool, techniques and cropping practices, the farmers, and the government for the economic upliftment of the people at large. An earnest attempt has been made in this study to explore the profile characteristics of farmers towards soil health card. The study also aims to document the constraints face by the farmers in the usage of soil health card which helpful to concerned authorities to tackle the problems and

make the scheme farmer friendly. Keeping this in view, the present investigation was designed with the following objectives.

Objective
1. To study the profile of beneficiary farmers of soil health card scheme.
2. To study the constraints expressed by farmers in utilization of soil health card.

Methodology
The study was conducted in Surguja district of Chhattisgarh in 2019-20. Surguja district is consisted of total number of 7 blocks (Sitapur, Mainpart, Ambikapur, Udaypur, Lakhanpur, Lundra, Batouli). Out of which, 2 blocks (Sitapur and Batouli) were selected based on maximum and minimum number of soil health card printed. From each block, 5 villages were selected (total 10 villages) with the help of Simple Random Sampling. After the selection of the villages, a village wise list of the farmer having soil health card was prepared and 15 farmers from each village were selected using simple random sampling. Thus, a total 150 respondents were selected for study. An Ex-post-facto research design was followed in the study.

The data was collected personally by the researcher through a structured and pre-tested interview schedule prepared according to the objectives of the study. The researcher personally approached the respondents and explained to them the purpose of this study. After establishing rapport with the respondents, the soil health card holder beneficiary interviewed and their responses were recorded in the interview Schedule. The collected data were transformed into the normal score for tabulation. The entire data was systematically arranged and tabulated. The simple statistical tools i.e., Frequency, percentage, were used for analysing and interpreting the data.

Result and Discussion
1. Profile of beneficiary farmers of soil health card scheme.
1.1 Socio-personal variables
Table no.1 shown that Age 49.33 percent were having middle age group followed by young 26.67 percent, and old 24.00 percent, Education, shows that 31.33 percent were having middle education, followed by high school 23.33 percent, higher secondary and above 22.67 percent, primary secondary 12.00 percent, read and write only 6.00 percent, Illiterate 4.67

percent and Farming experience, shown that, 50.67 percent were having medium level of farming experience followed by 25.33 percent and 24.00 percent of the soil health card holder belonged to high and low level of farming experience, respectively. Similar results were reported by Raghuwanshi (2015) [6] and Mukati (2016) [2].

1.2 Socio-economic variables
Table no.1 indicates that Land holding out of total soil health card holders, 32.67 percent respondents had small size of land holding, followed by 24.00 percent medium size of land holding, 22.00 percent were having marginal farmer and 21.33 percent large farmer and Annual income, reveals that out of total soil health card holder, 38.00 percent were having low income, followed by 34.67 percent were in medium level category and 27.33 percent of the soil health card holder belonged to high level income group. Similar result were reported by Rathore (2018) [7].

1.3 Socio-communication variables
Table 1 shown that the Extension contact majority 48.00 percent of the soil health card holders were having medium level of extension contact followed by low 28.00 percent and High 24.00 percent level of extension contact, Social participation, shown that majority 51.33 percent of the soil health card holders were having medium level of social participation, 25.33 percent were having low level of social participation, and 23.33 percent were having high level of social participation and mass media exposure, shown that majority 49.33 percent of the soil health card holder were having medium level of mass media exposure followed by 26.67 percent and 24.00 percent were having low and high mass media exposure, respectively. Similar result were reported by Padmaja (2018) [4].

1.4 Psychological variables
Table 1 shown that the innovativeness majority 50.00 percent of the soil health card holders were having medium level of innovativeness, followed by 28.00 percent were in high level of innovativeness and 22.00 percent of the soil health card holders belonged to low innovativeness and Scientific orientation, shown that majority 46.00 percent of the soil health card holder were having medium level of scientific orientation, followed by 30.00 percent belonged to low level of scientific orientation category and 24.00 percent were having high level of scientific orientation. Similar result were reported by Patel (2006) [5] and Rathore (2018) [7].

Table 1: Distribution of the beneficiary farmers of soil health card scheme according to their socio-personal variables (n=150)

S. No.	Characteristic	Category	Frequency	Percentage
Socio-personal variables				
1	Age	Young (up to 35 year)	40	26.67
		Middle (35 to 55 year)	74	49.33
		Old (above 55 year)	36	24
2	Education	Illiterate	7	4.67
		Read and write only	9	6
		Primary	18	12
		Middle	47	31.33
		High School	35	23.33
		Higher secondary (11th-12th) and above	34	22.67
3	Farming experience	Low (up to12 year)	36	24
		Medium (13 to 32 year)	76	50.67
		High (above 32 year)	38	25.33
Socio-economic variables				
1.	Land	Marginal farmers (up to1 ha)	33	22.00

	holding	Small farmers (1 to 2 ha)	49	32.67
		Medium farmer (2 to 5 ha)	36	24.00
2.	Annual income	Large farmers (Above 5 ha)	32	21.33
		Low Income (Up to 1,00,000 Rs.)	57	38.00
		Medium Income (1,00,000 to 3,00,000 Rs.)	52	34.67
		High Income (Above 3,00,000 Rs.)	41	27.33
Socio-communication variables				
1	Extension contact	Low (up to 12 score)	42	28.00
		Medium (13 to 16 score)	72	48.00
		High (Above16 score)	36	24.00
2	Social participation	Low level (up to 7 score)	35	23.33
		Medium level (8 to 9 score)	77	51.33
		High level (above 9 score)	38	25.33
3	Mass media exposure	Low (Up to 13 score)	40	26.67
		Medium (14 to19 score)	74	49.33
		High (Above 19 score)	36	24.00
Psychological variables				
1	Innovativeness	Low (Up to 16 score)	33	22.00
		Medium (17 to 19 score)	75	50.00
		High (Above 19 score)	42	28.00
2	Scientific orientation	Low (Up to 18 score)	45	30.00
		Medium (19 to 22 score)	69	46.00
		High (Above 22 score)	36	24.00

2. Constraints expressed by farmers in utilization of soil health card

Table 2 indicates the constraints faced by the respondent in utilization of soil health card. As per frequency level of constraints expressed by farmers in utilization process and got rank accordingly the item wise were Calculating fertilizer doses based on soil nutrient status is difficult 78.66 percent rank first, The time between taking soil samples and issuing cards is far too long 70.00 percent rank second, Unavailability of micronutrient status of soil in the Soil Health Card 65.33 percent rank third, Received soil health cards after crop harvest 60.00 percent rank fourth, Unable to comprehend all of the details on the soil health card 58.66 percent rank fifth, Soil testing lab is not easily available in block/ tahsil level 54.66 percent rank sixth, Lake of information about taken soil sample method 53.33 percent rank seventh and Lake of right information about soil health card scheme 50.00 percent rank eighth.

Table 2: Distribution of respondent according to their constraints expressed by farmers in utilization of soil health card

S. No.	Constraints	Frequency (n=150)	Percentage	Rank
1.	Lake of information about taken soil sample method.	80	53.33	VII
2.	Unavailability of micronutrient status of soil in the SHC	98	65.33	III
3.	Receive soil health cards to farmer after crop harvest.	90	60.00	IV
4.	Calculating fertilizer doses based on soil nutrient status is difficult.	118	78.66	I
5.	The time between taking soil samples and issuing cards is far too long.	105	70.00	II
6.	Unable to comprehend all the details on the soil health card.	88	58.66	V
7.	Soil testing lab is not easily available in block/ tahsil level.	82	54.66	VI
8.	Lake of right information about soil health card scheme.	75	50.00	VIII

Conclusions

It is concluded that the respondents were middle age group with middle school education status and medium farming experience (13 to 32 years). The findings also reveals that most of them were small farmers with low annual income (up to 1,00,000 Rs.) and majority of the respondent were show that medium level of extension contact, social participation, mass media exposure, innovativeness and scientific orientation.

Major constraints face by the beneficiary farmers in utilization of soil health card were difficulty in calculating fertilizer dose based on nutrient status, the time between taking soil samples and issuing cards is far too long.

References
1. Charel JM, Vejapara VP, Parmar VS, Baria N. Perception of Farmers about the Soil Health Card. International Journal of Current Microbiology and Applied Sciences. 2018;7(2):3233-3236.
2. Mukati A, Bisht K, Singh SP, Raghuwanshi S. Farmer's perception regarding soil health card. International Journal of Chemical Studies. 2018;6(6):307-310.
3. Naruka PS, Verma Shilpi, Pachauri CP, Sarangdevot SS, Kerketta Shilpi, Bhadauria SS, *et al.* Study on Knowledge, Adoption and Constraints Faced by Farmers about Soil Health Card based Fertilizer Application in Neemuch District, India. International Journal of Current Microbiology and Applied Sciences. 2018;7(7):1833-1837.
4. Padmaja B, Angadi JG. Utilization of Soil Health Card by Farmers in Nutrient Management. International Journal of Current Microbiology and Applied Sciences. 2018;7(12):2319-7706
5. Patel VT. Socio-Economic and Motivational factors encouraging organic farming in North Gujarat. Ph.D. (Agri.) Thesis (Unpublished), SDAU, Sardar krushinagar, Gujarat, 2006.
6. Raghuwanshi N. Impact of front-line demonstration on scientific temperament of wheat growers in Tikamgarh district of Madhya Pradesh. M.sc. (Ag.) Thesis (unpublished) Department of Extension Education, College of Agriculture, Tikamgarh, JNKVV Jabalpur,

2015.
7. Rathore Vikash. Farmers' Perception towards Soil Health Card in Jabalpur District of Madhya Pradesh. M.Sc. (Agri.) Thesis (Unpublished), JNKVV, Jabalpur, 2018.
8. Shanthy RT, Subramaniam R. Farmers' Perspective on Integrated Nutrient Management in Sugarcane. Indian Res. J Ext. Edu. 2015;15(1):100-106.