LEVEL OF INFORMATION REGARDING SOIL HEALTH CARD AMONG THE FARMERS

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ABSTRACT

Agriculture is the backbone of the Indian economy, and hence, the very existence of economic activities of the population of the country is dependent on the state and health of its agriculture sector. The study was undertaken with a view to assess the socio-economic status of farmers and heir level of knowledge regarding Soil Health Card (SHC) in Rajasthan. The random sampling technique comprised of 120 farmers. Study was based on primary data collected during year 2019-20 through survey method. Simple tabular analysis was used to present the findings. The study concluded that respondent farmers belonged to medium socio-economic status in general. They fall in middle income group with small and medium size of land holding. The information level of soil health card among farmers were overall good. It further concluded that only 43 per cent farmers found it convenient to send soil samples to the soil testing laboratory. Level of SHC understanding is easy (69%). 50 per cent farmers were following the recommendation sometimes. Maximum (54%) farmers reported the need for expert advice sometimes to understand fertilizers doses to be applied in the farm. 47 per cent farmers facing difficulties about card information.

Keywords*: socio-economic status, soil health card, level of information*

INTRODUCTION

In India, agriculture is the largest sector of economic activity. It provides food, raw materials and the employment to a very large proportion of the population. The national output depends on the output in agriculture, as it is one of the most dominating sectors in India. For the same reason, it has to provide the capital required for its own development and make an available surplus for national economic development. At the same time, the exports of primary produce earn valuable foreign exchange which can be used to import capital goods for the development of industry and infrastructure. Because of all these reasons, an improved and efficient agriculture is a dire necessity in our economy. The vital role of agriculture arises out of the position the agrarian sector occupies in the overall economy of the country. Agriculture is the backbone of the Indian economy, and hence, the very existence of economic activities of the population of the country is dependent on the state and health of its agriculture sector (Anon., 2020).

Soil health and fertility is the basis for sustainable profitability of the farmers (Ban *et al.,* 2020). Using optimal doses of fertilizers and cropping pattern as per the scientific recommendation is the first step towards sustainable farming. Soil testing is a science based and time-tested tool for assessment of soil fertility status and soil ailments and for nutrient amendment recommendations. Soil testing, as a tool for judicious fertilizer use, works on the principle of profitability, meaning if all other factors of production are at optimum and none of them limiting, there is all probability to obtain more profitable response to applied nutrients based on soil testing than those applied on adhoc basis. In India, the current consumption of NPK ratio is 6.7:2.4:1, which is highly skewed towards nitrogen as against ideal ratio of 4:2:1. There is a need for balanced use of fertilizers, keeping this government of India introduced soil health card scheme (SHCs) across India. On 5th December 2015 the ministry of agriculture introduced the soil health card (SHC) scheme. The SHC scheme has been approved for implementation during the remaining period of 12th plan. SHC will be provided to all farmers in the country at an interval of two years to enable the farmers to apply recommended doses of nutrients based on soil test values to realize improved and sustainable soil health and fertility, low costs and higher profits (Reddy, 1997).

OBJECTIVES

(1) To study the socio-economic status of farmers

(2) To study farmer's information level regarding soil health card

METHODOLOGY

For the study, simple random sampling technique was used. The sample farmers were selected randomly. Rajasthan state was used as a study area. The sample farmers connected through Kisan Call Center were selected for the study. The samples of 120 farmers were selected randomly. Primary data were collected from the selected farmers through personal interview by phone calls with the help of the well prepared questionnaires especially for the purpose of the study. The collected data were extracted and analysed with the help of Microsoft Excel® and presented in the form of tabular analysis, graph, pie chart and appropriate statistics tool.

RESULTS AND DISCUSSION

Socio-economic profile of farmers

Table 1 : Socio-economic profile of farmers

(n=120)

Sr. No.	Characteristics	Frequency	Per cent
A	**Age**		
1	Young (up to 35 years)	37	30.83
2	Age (between 36 to 50 years)	64	53.33
3	Old (Above 50 years)	19	15.83
B	**Gender**		
1	Male	120	100.00
2	Female	0	00.00
C	**Size of family**		
1	Small (up to 4 members)	18	15.00
2	Medium (5 to 8 members)	63	52.50
3	Large (more than 8 members)	39	32.50
D	**Level of education**		
1	Illiterate	13	10.83
2	Primary (1^{st} to 8^{th} standard)	32	26.67
3	Secondary (9^{th} to 10^{th} standard)	29	24.17
4	Higher secondary (11^{th} to 12^{th} standard)	20	16.67
4	Graduation and above degree	26	21.67
E	**Land holdings**		
1	Marginal size (up to 1.00 ha)	12	10.00
2	Small size (1.01 to 2.00 ha)	35	29.17
3	Medium size (2.01 to 4.00 ha)	46	38.33
4	Large size (more than 4.00 ha)	27	22.50
F	**Annual income**		
1	Low income (up to ₹ 2,00,000)	31	25.83
2	Medium income (₹ 2,00,000 to 5,00,000)	62	51.67
3	High income (above ₹ 5,00,000)	27	22.50

G	Farming experience		
1	Up to 5 years (Average 2.5 years)	09	07.50
2	6-20 years (Average 13 years)	58	48.33
3	More than 20 years (Average 25 years)	53	44.17
H	**Participation in farmer's trainings**		
1	Yes	36	30.00
2	No	84	70.00

It can be observed from the Table 1 that majority (53.33%) of farmers belonged to the age group of 36 to 50 followed by old age group (35 %). Literacy among farmers concluded that 26.67 per cent of the farmers completed primary school, 24.17 per cent farmers completed secondary school, 21.67 farmers having graduation and above degree, and only 16.67 per cent farmers completed higher secondary school. Majority proportion of farmers (67.5%) had small and medium size of land in study area. In surveyed area majority of the farmers (51.67%) belonged to medium income group (Rs. 2,00,000 to Rs. 5,00,000) followed by 25.83 per cent farmers belonged to low income group (up to Rs. 2,00,000). Majority of the farmers (48.3%) have 6-20 years of experience and on an average farmers have 13 years of experience in farming sector. 70 per cent of farmer's response was negative regarding their interest to participations in farmer's trainings. Mittal and Mehar (2015) studied socio-economic profile with the same indicators.

Farmer's information level regarding Soil Health Card (SHC)

Soil testing is a comprehensive soil fertility evaluation programs which helps the farmer's in judicious application of chemical fertilizers in a balanced form to the crops. The soil testing of a particular field gives reliable information about the deficiency of major and micro nutrients in the soils as well as hazards such as soil acidity, alkalinity and salinity. After testing the soil, farmers can know the exact amount of nutrients to be applied for a particular crop in a particular field. The farmers can know how much quantities of nutrients are already available in the soil and how much quantities should be provided additionally for a particular crop in a particular field. Therefore, soil testing is definitely advantageous to the farmers in achieving maximum production and earning maximum profit.

Soil Health Card generated district wise in Rajasthan.

The secondary data of soil health card generated district wise in Rajasthan shown in Table 2. The results showed all districts entered soil testing during the cycle 2017-18 to 2018-19. The data showed that highest test results entered in Hanumangarh district (121,939) followed by Jaipur (90,102) and Sriganganagar (85,655) districts. The lowest SHC results entered in Rajsamand districst (8,272).

Table 2 : District wise soil tests results entered in Rajasthan during the cycle 2017-18 to 2018-19 under SHCs

Sr. No.	District	Test results entered
1	Ajmer	48,119
2	Alwar	82,234
3	Banswara	14,993
4	Baran	53,450
5	Barmer	59,325
6	Bharatpur	85,275
7	Bhilwara	39,998
8	Bikaner	36,957
9	Bundi	28,981
10	Chittorgarh	30,509
11	Churu	32,184
12	Dausa	40,555
13	Dholpur	23,226
14	Dungarpur	8,761
15	**Sriganganagar**	**85,655**
16	**Hanumangarh**	**121,939**
17	**Jaipur**	**90,102**
18	Jaisalmer	14,227
19	Jalore	37,584
20	Jhalawar	46,258
21	Jhunjhunu	61,721
22	Jodhpur	27,790
23	Karauli	21,045
24	Kota	21,077
25	Nagaur	72,860
26	Pali	68,790
27	Pratapgarh	26,821
28	**Rajsamand**	**8,272**
29	Sawai Madhopur	42,667
30	Sikar	63,892
31	Sirohi	9,686
32	Tonk	81,240
33	Udaipur	13,161
	Total	**1,499,354**

Awareness about soil testing among farmers

Table 3 : Awareness about soil testing before and after SHCs (n=120)

Sr. No.	Awareness of soil testing	Frequency	Percent
1	**Before SHCs**	37	30.83
2	**After SHCs**	83	69.17

It is pre-requisite to study the level of awareness about soil testing technology among sample farmers to investigate knowledge about before and after soil heath card schemes (SHCs) introduced. Table 3 emphasizes on the awareness on soil testing only 31 per cent farmers aware before SHCs introduced and majority of farmers almost 69 per cent aware to soil testing after SHCs. As resulted that many farmers award about soil testing but they are not interested for soil health card.

Perception of respondents towards Soil Health Card (SHC)

Study revealed that among 58 percent farmers are soil health card holders and 42 percent farmer's non-holders of soil health card out of 120 farmers shows in Table 4. Many farmers showed not interests to get soil health card.

Table 4 : Sample farmers' responses towards soil health card (n=120)

Sr. No.	Soil health card (SHC)	Frequency	Percent
1	**SHC Holder**	70	58.00
2	**SHC Non-holder**	50	42.00

Farmer's information level regarding soil health card

Responses gathered from pertaining to information regarding farmers holds soil health cards (SHC) (N = 70) is presented in Table 5. It can be seen that only 43 per cent farmers have reported convenience in sending a soil sample to the laboratory for testing. Maximum farmers (70%) are referring SHC to other farmers. Level of SHC understanding as easy is reported by 69 per cent farmers. Farmers' following the recommendation sometimes as stated in SHC is 50 per cent. Maximum (54%) farmers reported the need for expert advice sometimes to understand fertilizers doses to be applied in the farm. 47 per cent farmers facing difficulties about card information. Ghate and Kamble (2020) used the same method in their study.

Table 5 : Sample farmers' response towards soil health card (n = 70)

Sr. No.	Responses	Sometimes	Yes	No	Sometimes (%)	Yes (%)	No (%)
1	**Convenience in sending soil samples to laboratory**	0	30	40	0	43	57
2	**SHC referring to other farmers**	0	49	21	0	70	30
3	**SHC is easy to understand**	14	48	8	20	69	11
4	**Difficulties about card information**	12	33	25	17	47	36
5	**Elements quantity known**	0	28	42	0	40	60
6	**Used for reclamation activity**	25	19	28	35	26	39
7	**Nutrients addition**	8	35	27	11	50	39
8	**Follows recommendations**	35	22	13	50	31	19
9	**Understanding doses own basis**	23	28	19	33	40	27
10	**Need expert advice**	38	14	18	54	20	26

CONCLUSION

The study concluded that respondent farmers belonged to medium socio-economic status in general. They fall in middle income group with small and medium size of land holding. The soil health card generated district wise in Rajasthan showed that highest test results entered in Hanumangarh district followed by Jaipur and Sriganganagar districts. The lowest SHC results entered in Rajsamand districts. The results emphasized that only 31 per cent farmers were aware before SHCs introduced and majority of farmers became aware to soil testing after SHCs. The study found that majority farmers were soil health holder. Majority of farmers were aware about Soil Health Card (SHC) and information provided by SHC on nutrient status of soil and recommended dose of fertilizers.

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