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Awareness about soil health card by the beneficiaries and non-beneficiaries farmers

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Abstract

The Government of India launched Soil Health Cards (SHC) Scheme in February 2015. To find out the impact of Soil Health Card, the present study entitled "Awareness about soil health card by the beneficiaries and non-beneficiaries' farmers". The multistage sampling design was employed. In first stage 2 blocks were selected randomly. In 2nd stage 2 panchayat were selected purposely from each blocks having maximum number of soil health card holders. In this way 80 farmers out of these beneficiaries and non-beneficiaries were selected randomly. The majority of beneficiaries respondents are aware of soil health card is govt. of India scheme had weighted mean score 2.57 and non-beneficiaries are aware of SHC helps to indicate the soil health have weighted mean score 1.67. Farmers general awareness toward SHC encourage judicious application of fertilizers have weighted mean score 2.45 in beneficiaries and SHC helps in practicing farming in scientific way have weighted mean score 1.45 in non-beneficiaries.

Keywords: SHC, awareness, beneficiaries, non-beneficiaries

Introduction

India ranks second in agricultural output and among top five positions for about 80 per cent of the products produced from farms. Agriculture contributes 70-80 per cent to country's GDP (Anonymous, 2019). India's cropping intensity is highest in the world and has achieved grain self-sufficiency but the production has gradually turned resource intensive, cereal centric and regionally biased. The resource intensive ways of Indian agriculture have raised serious sustainability issues. Application of fertilizers being one of the factors led to tremendous increase in the level of fertilizer consumption and today, India is one of the largest producer and consumer of fertilizers in the world (Kaur *et al.* SS. 2020) [2].

The Soil Health Card (SHC) scheme was launched in February 2015, in the first phase, the target was to distribute 84 lakh cards. But till July 2015, 34 lakh cards have been issued. This is a flagship programme for the agricultural sector of the country. The soil testing is proven scientific tools to evaluate soil fertility for recommending balanced nutrition to crops. However, the soil testing programme in India has failed to create the desirable impact on the farming community due to extremely poor coverage and delay in timely dissemination of fertilizers recommendation to farmers. While creation of required infrastructural facilities involves huge burden on Government exchequer, application of space age technology has given ample scope to improve the analysing capacity as well as dissemination ability of the soil testing laboratories (Niranjan *et al.* 2018) [4]. The aim of the SHC scheme is to do soil tests on each and every farm, and to formulate micro-level maps of soil fertility at the farm level (Patel *et al.* 2023) [10]. Soil is one of the elements required for farming as it provides nutrients to the plant. Healthy soil contains all the elements for growth and development of crop or the soil deprived from one or more nutrient either reduce the production or degraded quality of crops (Patel *et al.* 2017) [5].

A SHC is meant to give each farmer soil nutrient status of his holding and advise him on the dosage of fertilizers and micronutrient and also the needed soil amendments that he should apply to maintain soil health in the long run. The scheme is considered as a holistic measure for soil health and farm economy. A SHC carries crop wise recommendation of nutrients and fertilizer required for the individual farms to help farmers to improve productivity through judicious use of inputs. In this programme, technical guidelines are given on how to collect the soil samples and where to test it (Jaiswal *et al.* 2018) [1]. Many efforts have been made by the central and state Governments to know the health status of soil of farmers by introducing Soil Health Card Scheme, but how far the farmers had perceived the Soil Health Card.

Considering the above stated information, now it is necessary to know the perception of the farmers regarding soil health card (Shastri 2021) [6].

Soil Health Cards provides crop-wise recommendations of nutrients and fertilisers required for the individual farms to help farmers to improve productivity through judicious use of inputs (Naya 2022) [3].

Keeping in view the above facts, the present study entitled "Awareness about soil health card by the beneficiaries and non-beneficiaries' farmers" is being proposed to be undertaken.

Materials and Methods

The present study was conducted in Himachal Pradesh state in Mandi Districts the multistage sampling design was employed. In first stage 2 blocks were selected randomly. In 2nd stage two panchayats from each block were selected

purposely having maximum number of Soil Health Card holders, in third stage two villages was selected randomly from each panchayat. In final stage five farmers who are availing Soil Health Care facility and five farmers non-Soil Health Card holders were selected randomly from the same village. In this way 80 farmers out of these 40 beneficiaries and 40 non-beneficiaries were selected randomly.

Awareness about soil health card

It has been measured in term of percentage and number of farmers who were aware of soil health card. The continuum was fully aware, aware, not aware score were 3 for fully aware, 2 for aware, 1 for not aware.

Results and Discussions

Awareness about Soil Health Card by the beneficiaries and Non-beneficiaries farmers

Table 1: Farmers general awareness towards soil health card (Beneficiaries and non-beneficiaries)

S. No.	Statements	Beneficiaries		Non-beneficiaries	
		Total weighted score	Weighted mean score	Total weighted score	Weighted mean score
1.	SHC helps to indicate the soil health	99	2.47	67	1.67
2.	SHC is issued for 3 years	103	2.57	43	1.07
3.	Soil health card is a govt. of India scheme	94	2.35	61	1.52
4.	SHC scheme is also useful for illiterate farmers	84	2.1	51	1.27
5.	SHC scheme was started in the year 2015	82	2.05	56	1.40
6.	SHC will be distributed to farmers once in three-year cycle	79	1.97	49	1.22
7.	SHC provides online delivery of SHC to the farmers using soil health card portal	85	2.12	40	1.00
8.	SHC consist details about 12 parameters	54	1.37	40	1.00
9.	Soil sample are taken after harvesting of kharif and rabi crop	82	2.05	53	1.32
10.	SHC scheme provides soil testing facilities to farmers at their doorsteps	86	2.15	40	1.00

Farmer's general awareness towards soil health card. (Beneficiaries and non-beneficiaries)

Table 1. Shows that the 'SHC helps to indicate the soil health' shows farmers general awareness towards soil health card with weighted mean score of 2.47 in beneficiaries and 1.67 in non-beneficiaries. However, 'SHC is issued for 3 years' have weighted mean score 2.57 in beneficiaries and 1.07 in non-beneficiaries, Farmers aware of 'Soil health card is a govt. of India scheme' have weighted mean score 2.35 in beneficiaries and 1.52 in non-beneficiaries, 'SHC scheme is also useful for illiterate farmers' have weighted mean score 2.10 in beneficiaries and 1.27 in non-beneficiaries, 'SHC scheme was started in the year 2015' have weighted mean score 2.05 in beneficiaries and 1.40 in non-beneficiaries, 'SHC will be distributed to farmers once in three-year cycle' have weighted mean score 1.97 in beneficiaries and 1.22 in non-beneficiaries, 'SHC provides online delivery of SHC to the farmers using soil health card portal' have weighted mean score 2.12 in beneficiaries and 1.00 in non-beneficiaries, After that 'SHC consist details about 12 parameters' have weighted mean score 1.37 in beneficiaries and 1.00 in non-beneficiaries, 'Soil sample are taken after harvesting of kharif and rabi crop' have weighted mean score 2.05 in beneficiaries and 1.32 in non-beneficiaries, 'SHC scheme provides soil testing facilities to farmers at their doorsteps' have weighted mean score 2.15 in beneficiaries and 1.00 in non-beneficiaries. The research clearly indicates that the beneficiaries' farmers had highest awareness in term of SHC is issued for 3 years, SHC helps to indicate the soil health and soil health card is a govt. of india scheme as compared to non-

beneficiaries' farmers. If we discuss about the other statements the awareness level towards soil health scheme was high in beneficiaries' farmers. The major reason may be the low awareness level towards SHC was non-beneficiaries' farmer was not adopting that scheme and they do not know about the scheme's facilities. Findings are supported by Yogesh *et al.* 2023 [9] and Shehrawat *et al.* 2018 [8].

Farmers awareness towards soil health regarding soil health card beneficiaries and non-beneficiaries' farmers

From table 2. The result revealed that farmers awareness towards soil health card 'SHC encourage judicious application of fertilizers' have weighted mean score 2.45 in beneficiaries and 1.02 in non-beneficiaries, 'SHC helps in practicing farming in scientific way' have weighted mean score 2.12 in beneficiaries and 1.45 in non-beneficiaries, 'SHC can be helpful only if the recommendation are followed' have weighted mean score 2.25 in beneficiaries and 1 in non-beneficiaries, 'SHC helps in increasing agricultural productivity' have weighted mean score 2.17 in beneficiaries and 1.1 in non-beneficiaries, 'SHC helps to improve the soil quality and profitability of farmers' have weighted mean score 2.37 in beneficiaries and 1.1 in non-beneficiaries, However, 'SHC helps to improve the soil quality and profitability of farmers' have weighted mean score 2.37 in beneficiaries and 1 in non-beneficiaries, 'SHC lowers the cost of cultivation' have weighted mean score 2.27 in beneficiaries and 1.02 in non-beneficiaries, 'Are you aware of precaution and method of taking soil sample' have weighted mean score 1.7 in beneficiaries and 1.45 in non-beneficiaries, 'Soil

sample are taken after harvesting of kharif and rabi crop' have weighted mean score 2.05 in beneficiaries and 1 in non-beneficiaries, After that 'SHC scheme provides soil testing facilities to farmers at their doorsteps' have weighted mean score 2.15 in beneficiaries and 1.1 in non-beneficiaries, 'SHC providing information about the available nutrients in the soil' have weighted mean score 2.22 in beneficiaries and 1.02 in non-beneficiaries, 'SHC helps the farmers to use chemical fertilizer' have weighted mean score 2.45 in beneficiaries and 1.45 in non-beneficiaries, However, 'SHC provides guidelines for integrated nutrient management' have weighted mean score 1.82 in beneficiaries and 1 in non-beneficiaries, 'SHC is useful scheme to understand fertility status of soil' have weighted mean score 2.12 in beneficiaries and 1.1 in non-beneficiaries, 'Expenditure of crop production decreases after soil testing' have weighted mean score 1.85 in beneficiaries

and 1 in beneficiaries. The result clearly shows that the awareness level towards soil health regarding soil health card was high in beneficiaries' farmers in term of soil encourage judicious application of fertilizer, SHC helps the farmers to use chemical fertilizer, SHC helps to inform the soil quality and profitability of the farmer and SHC lowers the cost of cultivation as compared to non-beneficiaries' farmers now a days farmers are feeling the need of balanced utilization of fertilizers which made them to fetch requisite information regarding the SHC scheme. The awareness level of beneficiary's farmer was high toward the balance use of fertilizer and SHC provides corrective measures for improving soil health and for getting better yield by reducing extra expenditure by applying required nutrient status. Findings are supported by Kumar *et al.* 2019 [11].

Table 2: Farmers awareness towards soil health regarding soil health card beneficiaries and non-beneficiaries' farmers

S. No.	Statements	Beneficiaries		Non-beneficiaries	
		Total weighted score	Weighted mean score	Total weighted score	Weighted mean score
1.	SHC encourage judicious application of fertilizers	98	2.45	41	1.02
2.	SHC helps in practicing farming in scientific way	85	2.12	58	1.45
3.	SHC can be helpful only if the recommendation are followed	90	2.25	40	1.00
4.	SHC helps in increasing agricultural productivity	87	2.17	44	1.10
5.	SHC helps to improve the soil quality and profitability of farmers	95	2.37	40	1.00
6.	SHC lowers the cost of cultivation	91	2.27	41	1.02
7.	Are you aware of precaution and method of taking soil sample	68	1.70	58	1.45
8.	Soil sample are taken after harvesting of kharif and rabi crop	82	2.05	40	1.00
9.	SHC scheme provides soil testing facilities to farmers at their doorsteps	86	2.15	44	1.10
10.	SHC providing information about the available nutrients in the soil	89	2.22	41	1.02
11.	SHC helps the farmers to use chemical fertilizer	98	2.45	58	1.45
12.	SHC provides guidelines for integrated nutrient management	73	1.82	40	1.00
13.	SHC is useful scheme to understand fertility status of soil	85	2.12	44	1.10
14.	Expenditure of crop production decreases after soil testing	74	1.85	40	1.00

Table 3: Awareness of farmers in aspects of SHC regarding crops production (Beneficiaries and non-beneficiaries)

S. No.	Components	Beneficiaries		Non-beneficiaries	
		Total weighted score	Weighted mean score	Total weighted score	Weighted mean score
1	Ploughing and land preparation	91	2.27	43	1.07
2	Improved crops	95	2.37	53	1.32
3	Seed treatment	91	2.27	48	1.20
4	Soil type	83	2.07	51	1.27
5	Method of sowing	87	2.17	51	1.27
6	Cropping pattern	92	2.30	61	1.52
7	Cropping diversification	83	2.07	40	1

Awareness of farmers in aspects of SHC regarding crops production (Beneficiaries and non-beneficiaries)

From table 4.8 Ploughing and land preparation 'Distribution of beneficiaries according to their extent of awareness in aspects of SHC regarding crops production' having weighted mean score 2.27 in beneficiaries and 1.07 in non-beneficiaries. However, 'Improved crops' have weighted mean score 2.37 in beneficiaries and 1.32 in non-beneficiaries, after that the statement 'Seed treatment' have weighted mean score 2.27 in beneficiaries and 1.20 in non-beneficiaries, 'Soil type' have weighted mean score 2.07 in beneficiaries and 1.27 in non-beneficiaries. 'Method of sowing' have weighted mean score 2.17 in beneficiaries and 1.27 in non-beneficiaries. 'Cropping pattern' have weighted mean score 2.30 in beneficiaries and 1.52 in non-beneficiaries. After that 'Cropping diversification' have weighted mean score 2.07 in beneficiaries and 1 in non-

beneficiaries. It is clearly indicated from the result the awareness level of the farmer in aspects of SHC regarding crop production was high in term of improved crops, cropping pattern, seed treatment and ploughing and land preparation in beneficiaries' farmers as compared to non-beneficiaries' farmers. The possible reason behind the high level of awareness level in beneficiaries' farmers may be due to different factor namely medium to high level of education, extension contact, mass media exposure and innovation proneness. Findings are supported by Sheetal *et al.* 2020 [7].

Conclusion

Soil is the most precious gift of nature. So, any kind of torture on it is a sin. Healthy Soils can provide healthy crops. To protect soil health and for sustainable agriculture. From table 4.6 The result revealed that the majority of the beneficiaries' respondents' general awareness towards soil health card was

high for 'SHC is govt. of India scheme' had weighted mean score 2.57 and 1.52 in non-beneficiaries' respondents. The result revealed that the majority of the respondents 'SHC helps the farmers to use chemical fertilizer' have weighted mean score 2.45 in beneficiaries' respondents and 1.45 in non-beneficiaries' respondents. The study shows that the majority of the respondents 'Improved crops' have weighted mean score 2.37 in beneficiaries' respondents and 1.32 in non-beneficiaries' respondents.

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