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Find out the constraints faced by wheat growers and provide suggestions for adaptation to soil health card

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Abstract

Soil Health Management aims at judicious and responsible use of chemical fertilizers on farms maintaining micro and macro nutrients of soil. The Soil Health Card scheme was started by Government of India in 2015 which offers a qualitative evaluation of soil health by collecting soil samples & testing the vital parameters. Soil health card lays more focus on chemical nutrient indicators, whereas physical and biological properties are not included. A study was conducted in Patan block of Jabalpur district on proportionate random sample 120 wheat growers who were also Soil health card beneficiaries. The research titled Find out the constraints faced by wheat growers and provide suggestions for adaptation to Soil Health Card. The study reveals that 90.83% wheat growers don't know how to take soil sample as the major constraint followed by don't know where soil testing is done (71.66%) and not all the fertilizers mentioned in the Soil health card are easily available (70.00%). Some useful suggestions provided to respondents to minimize the constraints that majority (95.83%) of respondents is accepted that soil testing laboratory should be established at Taluka level with highly qualified supporting staff followed by 91.66% accepted that farmer should be trained to take soil sample of its own soil, 88.33% accepted that recommend such fertilizers which are available in the market.

Keywords: Soil health card, wheat growers, constraints, suggestions

Introduction

Soil Health Management is one of the critical components under National Mission for Sustainable Agriculture (NMSA). It aims at judicious and responsible use of chemical fertilizers on farms maintaining micro and macro nutrients of soil.

"The Soil Health Card Scheme was launched in India on February 19, 2015 at Suratgarh, Rajasthan (Bisariya *et al* 2023) and is a flagship program by the Department of Agriculture and Co-operation under the Ministry of Agriculture and Farmers Welfare, Government of India. Under the programme, farmers receive soil health cards (SHCs) from the government which includes nutritional status of soil crop-specific recommendations for the nutrients and fertilisers needed for every individual land holding. The goal of this is to assist farmers in increasing output by using inputs judiciously. The Soil Health Card Scheme offers a qualitative evaluation of soil health by collecting soil samples & testing the vital parameters and the necessary reclamation actions for soils which cause problems."

(Rani *et al* 2024) [9] SHC contains the status of soil with respect to 12 parameters:

- N, P, K(Macro-nutrients)
- S (Secondary-nutrients)
- Zn, Fe, Cu, Mn, Br (Micro-nutrients)
- pH, EC, OC (Physical parameters) (https://www.sciencedirect.com 2025)

"Soil testing is a great tool to assess soil fertility and nutrient supplying capacity. The most crucial step in the whole programme is timely reporting of soil test results to the farmers. Speed and process should be reliable. Operation is also most important, the system and process should be in place for effective implementation of the scheme and to get accurate result soil health card is given to every individual farmer to use inorganic fertilizer based on soil test values to lower production cost, increase profits and maintain the soil health. Soil health card lays more focus on chemical nutrient indicators, whereas physical and biological properties are not included" (Kumari *et al* 2022) [7].

"Adopting sustainable soil fertility management (SFM) practices is necessary to achieve sustainable agricultural production" (Chowdary *et al*., 2018; Kapoor *et al*., 2021) [2, 4]. The question here is how many farmers are using SFM practices. In fact, the majority of the farmers use either sub or supra-optimal levels of chemical fertilizers which result in declined soil health and inherent soil fertility. In

accordance with the survey conducted by Kumar *et al*., (2021) [5] revealed that knowledge level and adoption of SFM are relatively much less i.e., only eight percent of the farmers are aware of it.

"There is a need for strengthening the Soil Health Card related extension services to provide better advisories. The scheme has a poor backing of infrastructure and human resources, with significant gaps. Although some southern and western states performed better, in some states even the allocated resources are not being spent or utilized due to lack of capacities. This should be of high priority in the immediate future" (Reddy 2017 and Reddy 2019) [10, 11].

Soil Health Card scheme is one such launched by the Government (Bisarya *et al*., 2023) [1].

Keeping the above facts in view a study was framed to find out the constraints faced by wheat growers and provide suggestions for adaptation Soil Health Card.

Materials and Methods

An ex-post-facto investigation was carried out in the purposively selected Patan block of Jabalpur district of Madhya Pradesh because it had the maximum number of Soil Health Card users. Patan block comprises of 224 village, out of which 10 villages namely Bhautiya, Chandwa, Goppur, Gwari, Jarond, Karondi, Katila, Jamkhar, Amarpur, and Hirapur were selected purposively on the basis of the maximum number of SHC holder & wheat growers. The respondents from the selected villages were chosen on the basis of proportionate percentage (10%) distribution and make population size 120 (Table 1).

Find out the constraints faced by wheat growers for adaptation to Soil Health Card at time of investigation. A constraint index was developed to measure constraints of respondents which they experienced for adaptation to soil health card. Appropriate statistical tools were used for data analysis. Responses were tabulated separately by using frequency and percentage and based on this the problems were ranked the basis of frequency shown in Table 2 and Table 3.

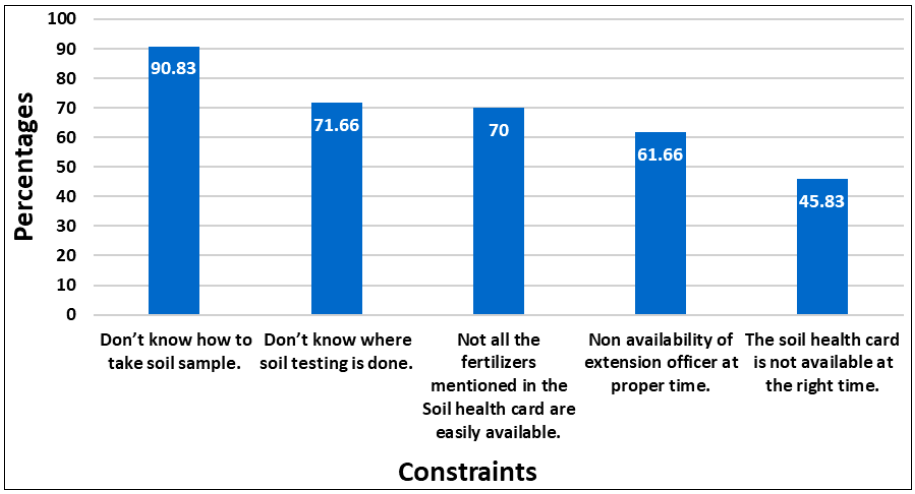
Table 1: Name of selected villages and numbers of respondents

S No.	Name of village	Total no. of soil health card holders	No. of Respondents
1	Gwari	210	21
2	Chandwa	190	19
3	Majhgawan	170	17
4	Bhautiya	150	15
5	Amarpur	130	13
6	Goppur	110	11
7	Jarond	80	8
8	Kanti	70	7
9	Karondi	50	5
10	Luhari	40	4
Total		1160	120

Results

Table 2: Constraints faced by wheat growers

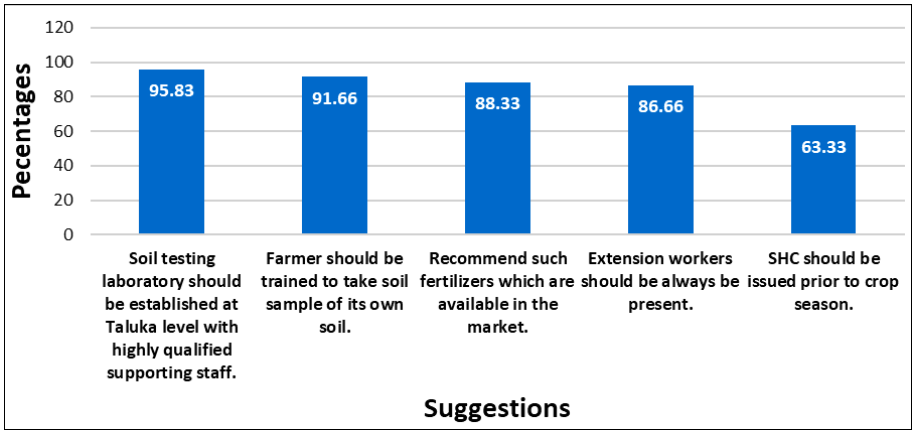
S No.	Constraints	Frequency	Percentage	Rank
1	Don't know how to take soil sample	109	90.83	I
2	Don't know where soil testing is done	86	71.66	II
3	Not all the fertilizers mentioned in the Soil health card are easily available	84	70.00	III
4	Non availability of extension officer at proper time	74	61.66	IV
5	The soil health card is not available at the right time	55	45.83	V



The data regarding constraints of Soil Health Card for adoption by respondent is presented in table 2. It reveals that it is don't know how to take soil sample (90.83%, rank I), don't know where soil testing is done (71.66%, rank II), not all the fertilizers mentioned in the Soil health card are easily available (70%, rank III), non-availability of extension officer at proper time. (61.66%, rank IV), and the soil health card is not available at the right time (45.83%, rank V).

Table 3: Provide suggestion to wheat growers regarding soil health card

S No.	Suggestion	Frequency	Percentage	Rank
1	Soil testing laboratory should be established at Taluka level with highly qualified supporting staff.	115	95.83	I
2	Farmer should be trained to take soil sample of its own soil.	110	91.66	II
3	Recommend such fertilizers which are available in the market.	106	88.33	III
4	Extension workers should be always be present.	104	86.66	IV
5	SHC should be issued prior to crop season.	76	63.33	V



Some useful suggestions provided to respondents, majority (95.83%) of respondent is accepted that soil testing laboratory should be established at Taluka level with highly qualified supporting staff (Rank I), 91.66% accepted that farmer should be trained to take soil sample of its own soil (Rank II), 88.33% accepted that recommend such fertilizers which are available in the market (Rank III), 86.66% accepted that extension workers should be always be present (Rank IV), and 63.33 accepted that SHC should be issued prior to crop season (Rank V).

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