

## The Constraints faced by the Soil Health Card Holders in Utilization of Soil Health Card and Suggestions to Overcome them

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**ABSTRACT:** Healthy soils are the foundation of a healthy life. Soil health refers to the ability of soil, as a living system, to sustain biological productivity, animal and plant health, and environmental quality. Maintaining soil health requires conservation and intentional management of soil health principles. It's worth it, though. Life, dependent on soil, cannot thrive in unhealthy soils – creating major downstream impacts on human, animal, and plant health. Global soil partnership was conducted by the United Nations Food and Agriculture Organization at its headquarters in Rome, Italy, from 7 to 9 September 2011. With this, Government of India had launched the Soil Health Card Scheme in 2015 to distribute soil health cards (SHCs) to each farmer with advanced technologies such as GPS-enabled tablets and mass testing, along with better fertilizer subsidy policies. The present study was conducted in Jabalpur (M.P.). In Patan block 6 villages *i.e.* Barkheda, Baroda, Chapod, Luhari, Nunsar and Pipariya were having 88, 74, 84, 90, 63 and 95 number of soil health card holders selected because of maximum number of soil health card, respectively.

**Keywords:** soil health, card, healthy, agriculture, crop season.

### INTRODUCTION

Soil Health Cards play a crucial role in modern agriculture by addressing the specific needs of farmers, promoting sustainable practices, and contributing to the overall health of the agricultural ecosystem (Ravikishore *et al.*, 2021). Several critical needs are addressed by the Soil Health Card (SHC) programme in the context of agriculture and sustainable soil management. Farmers can learn about their soil's nutrient level by using Soil Health Cards. For agricultural practices to properly regulate nutrients, this information is essential (Ravikishore *et al.*, 2021). Through informed decision-making, farmers may optimize nutrient levels for crop growth by using the right type and quantity of fertilizers. Farmers may increase crop yields and improve the quality of their produce by managing nutrients properly. Food security and farmers' financial stability are thus positively impacted by this. The recommendations for crop diversity and rotation on Soil Health Cards may be based on the nutrient needs of various crops. This lowers the chance of nutrient depletion and maintains soil fertility. A useful tool for ongoing soil health monitoring and evaluation is Soil Health Cards (Jaiswal and Singh 2018). Soil Health Cards support responsible use of fertilizers and other inputs, which helps to

preserve the environment. They lessen the possibility of pesticide overuse leading to soil and water contamination. Sustainable agriculture aims to maximize resource utilisation while reducing its negative effects on the environment. Soil Health Cards facilitate sustainable agricultural practices by encouraging input efficiency, mitigating soil deterioration, and enhancing soil health over the long term (Chowdary and Theodore 2017; Chowdary *et al.*, 2017).

### MATERIAL AND METHODS

Patan block 6 villages *i.e.*, Barkheda, Baroda, Chapod, Luhari, Nunsar and Pipariya were having 88, 74, 84, 90, 63 and 95 number of soil health card holders selected because of maximum number of soil health card, respectively. The respondents were selected with the help of systematic random sampling method. From each village every 3<sup>rd</sup> soil health card holder was selected as a respondent by the use of systematic random sampling. Therefore, in all 120 soil health card holders were investigated to collect the data. Thus, selected sample was comprised of 120 soil health card holders.

#### Problems faced by the farmers in utilization of soil health card.

Regarding constraints expressed by farmers in utilization of soil health card the finding revealed that

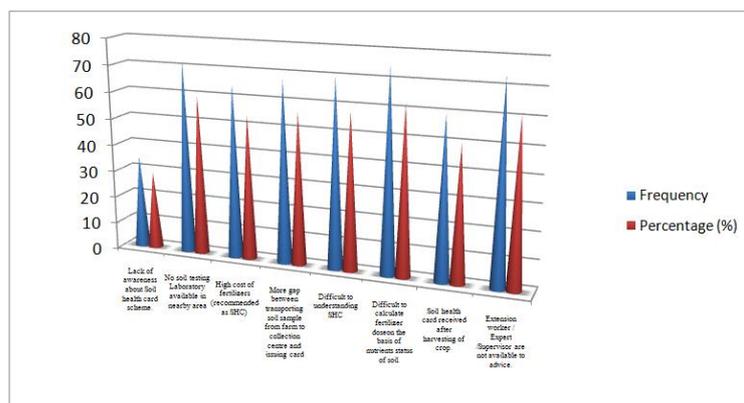
majority of the soil health card holders faced the problem while, difficult to calculate fertilizer dose on the basis of nutrient status of soil (62.50%), followed by extension worker or expert or supervisor are not available to advice (61.66%), no soil testing laboratory available in nearby area (60.00%) and difficult to understanding soil health card (58.33%) which were ranked first, second, third and fourth, respectively. Further the component or constraints like followed by more gap between transporting soil sample from farm to collection centre and issuing card (56.66%), high cost of fertilizers (as per the recommendation in SHC)

(54.16%), were ranked fifth and sixth, respectively. Further the least constraints faced by the respondents soil health card received after harvesting the crop” (50.00%) and lack of awareness about soil health card scheme (29.16%) were ranked seventh and eighth, respectively. That reflects that the farmers really experience constraints about the important component of the soil health card (Kumar *et al.*, 2017).

**Suggestion offered by the respondents to overcome the constraints.** The respondents were requested to offer their valuable suggestions against difficulties faced by them in use of soil health card.

**Table 1: Distribution of respondent according to constraints faced by them is using soil health card.**

Sr. No.	Problems	Frequency	Percentage (%)	Rank
1.	Lack of awareness about Soil health card scheme.	35	29.16	VIII
2.	No soil testing Laboratory available in nearby area	72	60.00	III
3.	High cost of fertilizers (recommended as SHC)	65	54.16	VI
4.	More gap between transporting soil sample from farm to collection centre and issuing card	68	56.66	V
5.	Difficult to understanding SHC	70	58.33	IV
6.	Difficult to calculate fertilizer dose on the basis of nutrients status of soil.	75	62.50	I
7.	Soil health card received after harvesting of crop	60	50.00	VII
8.	Extension worker / Expert /Supervisor are not available to advice.	74	61.66	II



**Fig. 1.** Distribution of respondent according to constraints faced by the misusing soil health card.

**Table 2: Distribution of respondents according to suggestions offered by them.**

Sr. No.	Suggestions	Frequency	Percentage (%)	Rank
1.	Government should provide Soil health card every third year to farmer	90	75.00	II
2.	Training should be given on proper method of collecting soil sample	74	61.66	VI
3.	Method of calculating dose on the basis of nutrients status should be given in Soil health card	93	77.50	I
4.	Soil health card should be issued prior to crop season	78	65.00	IV
5.	Farmer should be trained to take soil sample of his own soil.	75	62.50	V
6.	Timing should be specifying for application of fertilizers	38	31.66	VII
7.	Soil testing laboratory should be established at taluka level with highly qualified staff	80	66.66	III

The data related to suggestion offered by the soil health card are presented in Table 2 and ranked as I) Method of calculating dose on the basis of nutrients status should be given in soil health card (77.50%). II) Government should provide soil health card every third year to farmer (75.00%). III) Soil testing laboratory should be established at tehsil level with highly

qualified staff (66.66%). IV) Soil health card should be issued prior to crop season (65.00%). V) Farmer should be trained to take soil sample of his own soil (62.50%). VI) Training should be given on proper method of collecting soil sample (61.66%). VII) Timing should be specifying for application of fertilizers (31.66% (Niranjan *et al.*, 2018; Lokesh *et al.*, 2019).

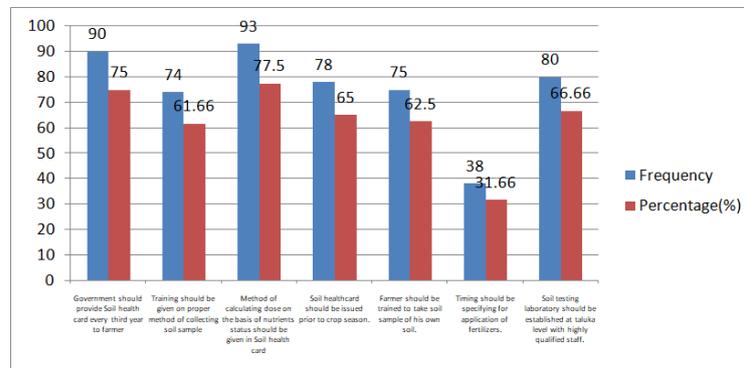


Fig. 2. Distribution of respondents according to suggestions offered by them.

## CONCLUSIONS

Thus, it can be concluded that major constraints faced by the SHC holders about soil health card were difficult to calculate fertilizer dose on the basis of nutrients status of soil followed by extension worker/expert/supervisor are not available to advice and no soil testing laboratory available in nearby area. respondents on the importance of incorporating specific elements into the soil health card, such as guidance on calculating fertilizer doses, regular distribution of cards, establishment of local testing facilities, timely issuance of cards, and farmer education on soil sampling and nutrient management.

## FUTURE SCOPE

Soil health card management systems can improve soil quality and the environmental conditions in many ways, including: Increasing organic matter: Organic matter can improve soil quality and reduces heavy metals and toxins also reducing soil disturbance, Cover crops can protect the land from erosion and improve soil quality. Using crop rotation through involves growing different crops in a field over multiple seasons, Organic amendments can improve soil conditions and stimulate biodiversity, managing soil microorganisms are managed the abundance, activity and composition of soil microbes. It can promote plant production and monitor soil health problems under different agro-ecologies.

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