

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 6; June 2024; Page No. 06-08

Received: 07-03-2024
Accepted: 13-04-2024

Indexed Journal
Peer Reviewed Journal

Overcome the constraints faced by paddy growers in utilizing soil health card in north coastal regions of Andhra Pradesh

¹Chundru Ramya Madhuri, ²Akkamahadevi Naik, ²Ashokkumar and ⁴Chitrasena Padhy

¹PG Scholar, Department of Agricultural Extension Education, M. S. Swaminathan School of Agriculture, CUTM, Paralakhemundi, Odisha, India

²Assistant Professor, Department of Agricultural Extension Education, M. S. Swaminathan School of Agriculture, CUTM, Paralakhemundi, Odisha, India

⁴Associate Professor, Department of Agricultural Extension Education, M. S. Swaminathan School of Agriculture, CUTM, Paralakhemundi, Odisha, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i6a.661>

Corresponding Author: Akkamahadevi Naik

Abstract

Soil test based nutrient management has become a major concern in attempts to boost agricultural production and productivity since soil analysis-based optimal fertiliser utilisation can boost crop productivity and reduce nutrient waste, reducing environmental impact and bias through optimal production. Governments use Soil Health Cards to help with these. The current study conducted in Srikakulam and Vizianagaram district of Andhra Pradesh during 2023-24. The main objective is overcome the problems by paddy growers in utilizing soil health card and to seek suggestions from them. The findings were indicated the primary challenges faced by paddy growers is the time gap between soil samples taken and issuing cards is too long received highest mean score of 2.65 and ranked first. Accordingly significant problems highlighted includes the Received soil health cards after crop harvest and Difficulty in calculating fertilizer dose on the basis of the nutrient status of soil both ranked second with same mean score of 2.61, Unavailability of laboratory ranked third, Unable to operate internet ranked fourth, Unavailability of proper internet ranked five. The suggestions are given by paddy growers were Crop wise recommended dose of fertilizer should be given ranked first, availability of micronutrient status should be displayed ranked second, SHC should be issued prior to crop season ranked third, Soil testing laboratory should be established at Mandal level with highly qualified supporting staff ranked four, the farmers should be trained to take soil sample of its own ranked five, Soil sampling procedure should be done in presence of farmer is ranked six.

Keywords: Soil test, paddy growers, soil health card, constraints faced by farmers

Introduction

Soil plays important role in increasing agriculture production in sustainable manners Concerns have been raised about the declining soil health and its unsatisfactory use of agricultural resources. The thin layer of material that covers the surface of the Earth is called soil, and it provides ecosystem services, environmental buffering, and food, feed, and fibre production for all living things (Barrios, 2007) [1]. Soil is thought to have either good or negative environmental consequences, depending on how it is maintained. Long-term organic farming systems have the potential to preserve soil productivity, lower soil erosion, and greatly increase organic matter content when properly maintained and can raise crop quality while keeping a steady production. Lack of organic matter addition, improper fertiliser application, and a failure to gradually replenish depleted micro-and secondary nutrients have resulted in nutrient shortages and a decline in soil fertility in many parts of the country (Yadav *et al.*, 2023) [8]. A soil health card (SHC) is intended to provide a farmer with information on the nutritional condition of his land as well

as recommendations on fertiliser and micronutrient dosages and necessary soil amendments to sustain soil health over the long term. Most Indian soils are deficient in major and micronutrients, with an average SOC concentration of approximately 0.54%. More than 70% of soils in farmer's fields appear to have either high soil acidity or high soil alkalinity, according to extensive soil testing. With around 29% of the land under land degradation, the Indian populace is malnourished due to a lack of several plant nutrients (Das *et al.*, 2022) [3]. The programme is regarded as an all-encompassing approach to improving agricultural economy and soil health (Jaiswal *et al.*, 2018) [5]. The Soil Health Card (SHC) programme was first introduced in February 2015, 84 lakh cards were intended to be distributed. However, 34 lakh cards have been distributed as of July 2015 (Niranjan *et al.*, 2018) [7]. The 12 soil parameters-pH, EC, organic carbon, macronutrients like nitrogen, phosphorus, potassium, and sulphur, and micronutrients like zinc, iron, manganese, copper, and boron-are all included in the printed report known as the Soil Health Card (Madhu *et al.*, 2020) [6]. Based on the soil nutrient state of a farmer's

holding, the card includes an advisory. It provides suggestions for the dosage of various nutrients required to achieve the best results (Ghaswa *et al.*, 2019) [4]. Based on the technological support given by the Indian Council of Agriculture Research (ICAR) and State/Central Agricultural Universities, the Indian government is putting in place a number of programmes for the wise use of soil resources in order to guarantee the highest level of agricultural productivity and profitability for farming communities. The National Mission on Soil Health Card, the Biogas and Manure Management Schemes, the Nutrient-Based Subsidy scheme, and the Soil Health Management component of the National Mission for Sustainable Agriculture (NMSA) are a few noteworthy government projects (Chaudhari *et al.*, 2020) [2].

Methodology

The research is conducted in Srikakulam and Vizianagaram districts of Andhra Pradesh, it is intentionally chosen for this study. By using the simple random sampling technique whereas 3 mandals are chosen from each district and within each mandal two villages were selected. These areas are specially targeted due more number soil health cards farmers. Thus, a total 180 respondents were selected for study. Using a pre-tested, organised interview schedule created in accordance with the study's goals, the researcher personally gathered the data. The goal of the study was personally communicated to the respondents by the researcher. Following a brief conversation to build rapport, the recipient of the soil health card conducted an interview with the respondents, recording their answers in the interview schedule. The gathered information was converted

into the tabulated normal score. Every piece of information was methodically organised and tabulated. The data were analysed and interpreted using basic statistical methods, such as frequency and percentage and mean.

Results and discussion

The data in table 1 reveals that the main obstacles paddy growers faced in accepting the soil health card programme were the time gap between soil samples taken and issuing cards is too long with mean score (2.65). The lack of personnel necessary for soil sampling and soil testing under SHCS, Department of Agriculture Cooperation, may be the cause. the Received soil health cards after crop harvest and Difficulty in calculating fertilizer dose on the basis of the nutrient status of soil both same mean score (2.61). Farmers implemented internalize recommendations and changed their preferred fertiliser mix based on SHC information; however, they were unable to implement these recommendations by changing their actual application due to other issues including cost, liquidity, or timely supply of fertilisers. Unavailability of laboratory (2.57), Unable to operate internet (2.52), Unavailability of proper internet with mean score (2.43). It could be the case that there were fewer demonstration camps held to familiarise users with the Soil Health Card Portal's interface and that none were planned.

Therefore, it can be inferred that the main obstacles farmers faced in adopting soil health cards were the lengthy delay between taking a soil sample and issuing the card, receiving the card after crop harvest, and the challenge of determining the appropriate fertiliser dosage based on the soil's nutrient status.

Table 1: Major constraints faced by paddy growers in adoption of soil health card. n=180

Sr. No.	Constraints	Mean	Rank
1	Unavailability of laboratory	2.57	III
2	Difficulty in calculating fertilizer dose on the basis of the nutrient status of soil	2.61	II
3	Unable to operate internet	2.52	IV
4	Received soil health cards after crop harvest	2.61	II
5	The time gap between soil samples taken and issuing cards is too long	2.65	I
6	Unavailability of proper internet	2.43	V

The data in Table 2 showed that the main recommendations made by the farmers to get around the obstacles to the acceptance of the soil health card programme were: 73.33 percent recommended fertiliser doses for each crop; 69.44 percent for micronutrient status displays; 56.11% for SHC issued prior to crop season; 50.00 percent for the establishment of a soil testing laboratory at the taluka level

with highly qualified support staff; 48.88 percent for training farmers to take soil samples from their own soil; and 38.88 percent of the procedure should be carried out in the presence of the farmer.

The majority of paddy growers recommended, it can be argued, that there should be a crop-wise recommended dose of fertilizer should be given.

Table 2: The paddy farmers provide suggestions to help them get past the obstacles they face.

Sr. No.	Suggestions	Frequency	Percentage	Rank
1	Crop wise recommended dose of fertilizer should be given.	132	73.33%	I
2	Availability of micronutrient status should be displayed.	125	69.44%	II
3	SHC should be issued prior to crop season.	101	56.11%	III
4	Soil testing laboratory should be established at Mandal level with highly qualified supporting staff.	90	50.00%	IV
5	The farmer should be trained to take a soil sample of its own soil.	88	48.88%	V
6	Soil sampling procedure should be done in presence of farmer.	70	38.88%	VI

Conclusion

It concluded that major constraints faced by paddy farmers in adopting soil health card were w the following: the

inability to calculate dosages accurately, there is too much time between collecting soil samples and sending out cards, obtained cards on soil health following crop harvest. It is

therefore recommended that policymakers create appropriate programmes, teach farmers, and appoint change agents to make the most use of the soil health card. Every farmer should receive a SHC from the government each year, along with training to help them better grasp the information contained in the documents.

References

1. Barrios E. Soil biota, ecosystem services and land productivity. *Ecological economics*. 2007;64(2):269-285.
2. Chaudhari SK, Biswas PP, Kapil H. Soil health and fertility. In: Biswas PP, ed. *The Soils of India*. Springer; c2020. p. 215-231.
3. Das BS, Wani SP, Benbi DK, Muddu S, Bhattacharyya T, Mandal B, *et al.* Soil health and its relationship with food security and human health to meet the sustainable development goals in India. *Soil Security*. 2022;8:100071.
4. Ghaswa R, Tripaty S, Sharma B. Knowledge, adoption and constraints of soil health card-based fertilizer application in Ratlam district, MP. *Indian Journal of Extension Education*. 2019;55(2):94-96.
5. Jaiswal M, Singh A. Study on awareness and perception regarding soil health card. *Journal of Pharmacognosy and Phytochemistry*. 2018;4:395-400.
6. Madhu HR, Ranganatha AD, Nagesha G, Mahesh DS. A Study on Knowledge and Attitude of Farmers and Constraints Faced by Them on Soil Health Cards in Mandya District of Karnataka. *Indian Journal of Pure & Applied Biosciences*. 2020;8(3):727-736.
7. Niranjana HK, Chouhan RS, Sharma HO, Rathi D. Awareness and performance of soil health card scheme in central India; c2018.
8. Yadav AK, Singh YK, Bishi JP, Patel P. Study on Socio-economic profile and constraints faced by farmers in utilization of soil health card in Surajpur district of Chhattisgarh. *Education*. 2023;19(24.16):56-67.