



P-ISSN: 2349-8528
 E-ISSN: 2321-4902
 IJCS 2020; 8(1): 1533-1535
 © 2020 IJCS
 Received: 10-11-2019
 Accepted: 12-12-2019

Ela Chandan
 Ph.D. Research Scholar,
 Department of Agri. Economics
 and Agri- Business Management,
 SHUATS, Allahabad,
 Utter Pradesh, India

Impact of soil health card scheme on farmers' income: A case study of kharif crops in Godda district, Jharkhand

Ela Chandan

DOI: <https://doi.org/10.22271/chemi.2020.v8.i1v.8475>

Abstract

The paper has analysed the impact of Soil Health Card Scheme on farmers' income by studying the economics of cultivation of two major kharif crop Paddy and Maize in Godda district of Jharkhand on during year 2018-19. For study, data were collected from 40 soil tested farmers/beneficiaries before and after application of recommended doses of fertilizers (RDF). Godda district has a mono cropping area almost farmers grow paddy crop. The study has found that yield of paddy increased per acre by 17.98 per cent respectively after adoption of RDF. The net income per acre increased from 6366 to 8060 (26.61%) in paddy after soil testing by the farmers. The BC ratio increased from 1.50 to 1.55 (3.78%) in paddy on adoption of RDF by the farmers. Thus, soil health card scheme was found highly beneficial to the farmers in term of increasing their income. However, there is a need to generate awareness about the benefits of this scheme among the farmers on one hand and strengthening of soil testing services / laboratories on the other hand for a wider replication of using RDF as per reference of soil health card.

Keywords: Soil health card scheme, farmers' income, paddy, Godda district, Jharkhand

Introduction

Godda district has situated at foot hill of Rajmahal and famous for open coal mine Lalmatia, there are mono cropping agriculture, almost farmers and agriculture depends on monsoon and grown paddy crop with traditionally. There are needed new interventions in agriculture practice such as introducing Soil Health Card. The soil health card (SHC) is a complete evaluation of the quality of soil right from its functional characteristics to water and nutrients content and other biological properties. It contains corrective measures that a farmer should adopt to obtain a better yield because soil is one of the elements required for farming as it provides nutrients to the plant. Soil health plays a vital role to ensure sustainable agricultural production. To popularizing soil test based fertilizer uses, soil health card is a tool to help the farmer to monitor and improve soil health based on recommendations and enables the farmer to use the soil and crop specific fertilizers. It provides a qualitative assessment of soil health and reclamation measures to the problematic soil. To protect soil health and for sustainable agriculture, the Government of India launched SHC scheme in February, 2015. 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. Under the Godda district of Jharkhand soil testing is done in soil testing labs & mini kit at KVKs and ATMA. The experts in this line will analyze the strength and weakness (micro-nutrient deficiency) of the soil and suggest measure to deal with and the concerned department will distribute the cards among farmer. Godda district have collected the 52000 soil samples for testing during the kharif season FY- 2018-19 out of 1.2 lakh Farmers. Under the district only one lab established in KVKs, one lab established in ATMA (PPP mode) and 35 trained Farmer's friend engage with Soil testing work with mini kits tools to be needed Soil testing lab under the district Godda, Jharkhand.

Corresponding Author:
Ela Chandan
 Ph.D. Research Scholar,
 Department of Agri. Economics
 and Agri- Business Management,
 SHUATS, Allahabad,
 Utter Pradesh, India

The soil testing is a proven scientific tool to evaluate soil fertility and 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.

Considering all of the above facts, the present paper has analysed the impact of soil test technology on economics in cultivation of major kharif crops in Godda district, Jharkhand.

Data and methodology

The study was conducted in district Godda of Jharkhand State, in which the SHC scheme was implemented since its inception year 2015-16. For study, one block from selected district, one village from each block and 40 soil tested farmers from each chosen village were selected randomly. An equal number of control farmers were also selected from the same villages. Thus, the study had 40 soil tested farmers/beneficiaries who reported on before and after implementation of SHC scheme. There major kharif crops of paddy were taken to study the impact of soil test technology on farmers' income.

Table 2: Changes reported after application of recommended doses of fertilizers to kharif crops in Godda district Jharkhand

Change	Most	(% of farmers)		
	Important t	Important	Least Important	Total
Increase in crop Yield	48.75	12.54	38.71	100
Improvement in Soil Texture	58.64	15.67	25.69	100
Improvement in Crop Growth	14.53	67.12	18.35	100
Improvement in grain filling	12.52	59.40	28.08	100
Lower incidence of pest and diseases	13.85	16.45	69.70	100
Reduction in application of other inputs like seed, labour, pesticide etc	71.22	10.50	18.28	100

Impact of soil testing on economics of cultivation of kharif crops paddy

The impact of soil testing on the economics of cultivation of selected kharif crop Paddy was studied and is presented in Table 3. In paddy, the Rs. per acre total cost of cultivation increased by 13.71 per cent, from Rs.12840 to Rs.14600, but net income also increases by 26.61 per cent from Rs.6366 to Rs.8060 (Table 3). The return per rupee investment also increased from Rs.1.50 to Rs.1.55 after the farmers got their soil tested. (Table 3).

Table 3: Impact of soil testing on economics of cultivation of major kharif crop in Godda district Jharkhand (Rs/acre)

Variable	Economics of Cultivation(Rs/acre)		% change
	Before	After	
Total cost	12840	14600	1760(13.71%)
Gross income	19206	22660	3454(17.98%)
Net Income	6366	8060	1694 (26.61%)
B.C Ratio	1.50	1.55	0.06 (3.76%)

Conclusions

The study has concluded that adoption of RDF as per SHC leads to reduction in the application of other inputs like seed, labour, pesticides, etc. (71.22%), improvement in soil texture (58.64%) and increase in crop yield (48.75%) were observed by the majority of households after the application of RDF. At the same time, they also started adopting the recommended package of practices (RPP) for cultivation of other crops as they got the opportunity to contact officials of the department

Results and Discussion

Yield of kharif crop paddy

A remarkable change in yield of selected kharif crops of paddy was observed before and after getting soil tested in the area under study. On application of recommended doses of fertilizer (RDF) the yield of paddy increased by 17.98 per cent (Table 1).

Table 1: Impact of application of recommended fertilizers on crop yield of Paddy in Godda district of Jharkhand

Crop	Average yield(quintal/acre)		% change
	Before	After	
Paddy	17.46	20.6	17.98%

Visible changes

The most important changes observed after the application of RDF were (i) reduction in application of other inputs like seed, labour, pesticides, etc. (71.22%), (ii) improvement in soil texture (58.64%), and (iii) increase in crop yield (48.75%). The important changes observed were (i) improvement in crop growth (67.12%) and improvement in grain filling (59.40%) and (ii) the lower incidences of pest and diseases after application of RDF (69.70%) was observed among the least important changes. (Table 2)

of agriculture, scientists of SAUs and KVKs and farming facilitators resulting in reduction in expenditure on fertilizers and other inputs, thereby cost of cultivation.

It was observed that the perception of farmers of the relevance of technologies i.e. SHC was not only affected by the basic characteristics of the farmers but also by the level of awareness. The study has revealed awareness level of respondents regarding utility of SHC, whereas variable annual income, farming experience and social participation were not found to have any relationship with the perception regarding SHC.

It is suggested that the issued SHCs need to be periodically updated so that the farmers remain aware about the changing fertility status of their land. The awareness generation regarding spraying and drilling method of fertilizers application is also needed among the farmers. The advantages of adoption of recommendations of soil testing may be disseminated among the farmers along with strengthening of extension service delivery.

Reference

1. Asthana A, Kumar S. Soil health and sustainable crop production: adoption and awareness of soil testing. *Journal of Sustainable Agriculture*. 2008; 32(2):303-320.
2. Anonymous. District Census Hand Book, Tikamgarh, 2015, 14-15.
3. Pagaria P. Knowledge and attitude of small and marginal farmers towards soil testing. *Journal of Advances in Developmental Research*. 2011; 2(2):171-173.

4. Supe SV, Singh SN. Economic motivation scale, risk preference scale and scientific orientation scale. Measurement in extension- Research instruments developed at IARI, Division of extension, New Delhi, 1969.
5. Chouhan RS, Kumar Dushyant, Sharma HO. Performance of soil testing service in Bhopal district of Madhya Pradesh. Agricultural Economics Research Review, 25 (Conf. issue): 544, 2012.
6. Biswas PP. Soil testing at farmers door step. Fertilizer News. 2002; 47(10):21-24.
7. Sharma HO, Mishra PK, Chouhan RS. Impact of soil testing in Madhya Pradesh. JNKVV Research Journal. 2015; 49(2):158-165.