

## PERCEPTION OF FARMERS TOWARDS SOIL HEALTH CARD SCHEME IN ANANTAPUR DISTRICT OF ANDHRA PRADESH

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### ABSTRACT

*Soil health and fertility are the basis for sustainable profitability of farmers all over the world. Further, utilising optimum doses of fertilizers & cropping pattern according to scientific recommendation is the initial step towards sustainable farming. Applying fertiliser to your soil without knowing the exact and actual nutrient that it needs will lead to over-fertilization. Testing your soil prior and receiving informed fertiliser recommendation prevents farmers from applying excessive amount of fertilizers and minimizing the related environmental damages. Ex-post-facto research design was followed for carrying out the study. The study was conducted in Anantapuramu district of Andhra Pradesh (2018- 2019). A total of 240 SHC beneficiaries were selected from six mandals. The results revealed that the majority (79.58%) of SHC scheme farmers had possessed moderate level of perception about SHC scheme followed by 12.09 and 8.33 per cent had good and poor level of perception about SHC scheme respectively. The probable reason might be due to the fact that farmer had education up to secondary level, medium level of mass media exposure and good scientific orientation. There is a need to set up laboratories in large numbers so that Soil testing becomes easy for the farmers. Development and popularization of low-cost technologies for SHT so that farmers use them in their fields and on their own is the need of the hour.*

**KEYWORDS:** SHC, SHT, Perception & Awareness

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### INTRODUCTION

Soil as a natural resource performs various critical functions, out of which the production function is the basis for food and nutritional security sustaining human and animal life on earth. Soil health and fertility are the basis for sustainable profitability of farmers all over the world. Further, utilising optimum doses of fertilizers & cropping pattern according to scientific recommendation is the initial step towards sustainable farming. As far as agriculture production is concerned, soil health plays a vital role in ensuring sustainable production by optimizing the utilization of fertilizer and reducing its waste (Patel et al, 2017). Neufeld et al (2006) stated that soil testing is a necessary and available tool for determining the amount of soil nutrients. Knowing the exact nutrient found in your farm soil and the pH is the first step of any healthy crop production program. Armed with soil test information, farmers can define the quantity of fertiliser and the exact type that is needed for application to improve the soil on your farm. This is essential because fertile soils are necessary to grow healthy crops. Knowing the exact deficiency that your soil is experiencing will result in zero wastage of such farm inputs. Applying fertiliser to your soil without knowing the exact and actual nutrient that it needs will lead to over-fertilization. Testing your soil prior and receiving informed fertiliser recommendation prevents farmers from applying an excessive amount of fertilizers and minimizing the related environmental damages.

The Soil Health Card Scheme (SHCS) was launched in Suratgarh town of Sri Ganganagar district of Rajasthan on 19 February 2015 to address the problems of degrading soil health. Under this scheme, Soil Health Cards (SHCs) are issued to farmers. SHC is a printed report prepared in 14 local languages that a farmer is handed over for each of his holdings. The card contains an advisory based on the soil nutrient status of a farmer's holding. It contains the status of soil with respect to 12 parameters, namely N, P, K (Macro-nutrients); S (Secondary-nutrient); Zn, Fe, Cu, Mn, Bo (Micro-nutrients); and pH, EC, OC (Physical parameters). Based on this, the SHC also indicates fertilizer recommendations and soil amendment required for the farm. The scheme offers GPS enabled soil sampling at a grid of 2.5 ha in irrigated area and 10 ha in rain-fed areas. A Soil Health Card (SHC) is issued to all the farmers in a period of two years and these cards need to be renewed after every three years (Anonymous 2019). SHC provides a qualitative assessment of soil health and thus helps the farmer to monitor and improve the soil health based on their field experiences. To make the scheme successful, the government of India, along with the Department of Agriculture and Cooperation and National Information Centre, has launched a soil health card agriculture portal and soil health card mobile app. The farmers need to register at the web portal "www.soilhealth.dac.gov.in" or mobile app along with the details of the soil sample. Perception is the way in which something is regarded, understood, or interpreted. The present scheme is undoubtedly a great initiative that may go a long way to promote soil health but its success shall depend on which level farmers perceive the content and benefits of the scheme.

## MATERIALS AND METHODS

Ex-post-facto research design was followed for carrying out the study. The study was conducted in Rayalaseema region of Andhra Pradesh state. Anantapuramu district was selected for the study because there exist diversified crops which require different types of soils. Six mandals namely Raptadu, Kanekal, Tadipatri, Gudibanda, Dharmavaram, Gorantla from Anantapuramu district were selected randomly by following lottery method sampling. Two villages were selected from each of the 6 mandals by following simple random sampling thus making a total of 12 villages. From each village, 20 farmers were selected by following simple random sampling procedure, thus making a total of 240 respondents who were having soil health cards had been selected for the study. Total 32 statements were administered to the sample farmers and asked to express their reaction in terms of their agreement or disagreement with each item by selecting any one of three response categories viz., Agree, Undecided and Disagree. The data were collected through personal interview method with the help of a pre-structured schedule from October 2018 to December 2018 designed with the objective of finding out the benefits derived by the soil health card scheme as perceived by farmers. The collected data was analysed and frequency and percentage were calculated and tabulated. The respondents were grouped into three categories namely (Poor, Moderate and Good) on the basis of mean and standard deviation

## RESULTS AND DISCUSSION

**Table 1: Distribution of farmers according to their level of perception towards SHC scheme (n=240)**

S. No	Level of Perception	Frequency	Percentage
1	Poor perception	20.00	08.33
2	Moderate perception	191.00	79.58
3	Good perception	29.00	12.09
	<b>Total</b>	<b>240</b>	<b>100.00</b>
		<b>Mean = 74.53</b>	<b>SD= 12.24</b>

**Table 2: Item wise Perception of Farmers towards SHC Scheme. (n=240)**

S. No	Statements	A(3)		UD(2)		DA(1)	
		f	%	f	%	f	%
1	Soil health card can be obtained after the soil testing	224	93.30	16	6.70	0	0.00
2	Soil health can be maintained by fulfilling the nutrient deficiency in soil as given in soil health card.	121	50.40	116	48.30	3	1.30
3	Soil fertility and productivity can be maintained with the help of soil health card.	139	57.90	90	37.50	11	4.60
4	Systematic crop planning can be done by using soil health card information.	115	47.90	113	47.10	12	5.00
5	Economic achievement can be obtained by using soil health card information.	145	60.40	76	31.70	19	7.90
6	Fallow land can be converted into cultivable land by using soil health card information.	114	47.50	102	42.50	24	10.00
7	Farming can be done in scientific way by using SHC information.	145	60.40	75	31.30	20	8.30
8	Soil health card may help to establish coordination among farmers, extension workers and experts.	133	55.40	83	34.60	24	10.00
9	The quantity of available nutrients in soil can be known with help of soil health card.	132	55.00	84	35.00	24	10.00
10	Deficient soils can be reclaimed by using suitable reclamation activities.	116	48.30	99	41.30	25	10.40
11	Soil health card gives information about amount of fertilizers to be applied.	131	54.60	83	34.60	26	10.80
12	Crop planning can be done according to type of land.	119	49.60	93	38.80	28	11.70
13	Unnecessary expenditure can be reduced by using information given in soil health card.	151	62.90	64	26.70	25	10.40
14	Soil degradation can be reduced.	99	41.30	105	43.80	36	15.00
15	Acidity, alkalinity of the soils can be known with help of soil health card information.	99	41.30	79	32.90	62	25.80
16	We can know the quantity of available organic elements in the soil by information given in soil health card.	169	70.40	51	21.30	20	8.30
17	We can apply the necessary quantity of organic matter in the soil with help of information given in soil health card.	116	48.30	103	42.90	21	8.80
18	We can know the quantity of available nitrogen in the soil by information given in soil health card.	112	46.70	95	39.60	33	13.80
19	We can apply the necessary quantity of nitrogen into the soil with the help of information given in soil health card.	110	45.80	97	40.40	33	13.80
20	We can know the quantity of available phosphorous in the soil by information given in soil health card.	118	49.20	84	35.00	38	15.80
21	We can apply the necessary quantity of phosphorous into the soil with the help of information given in soil health card.	133	55.40	79	32.90	28	11.70
22	We can know the quantity of available potassium in the soil by information given in soil health card.	139	57.90	78	32.50	23	9.60
23	We can apply the necessary quantity of potassium into the soil with the help of information given in soil health card.	114	47.50	90	37.50	36	15.00

24	We can apply necessary biofertilizers with the information in Soil health card	97	40.40	111	46.30	32	13.30
25	The quantity of biofertilizers to be applied in soil can be known with the help of information given in soil health card.	125	52.10	83	34.60	32	13.30
26	The quantity of combined fertilizers to be applied in soil can be known with the help of information given in soil health card.	122	50.80	89	37.10	29	12.10
27	The quantity of fertilizers to be applied for different crops can be known with the help of information given in soil health card.	123	51.30	84	35.00	33	13.80
28	We can apply the necessary quantity of sulphur into the soil with the help of information given in soil health card.	130	54.20	87	36.30	23	9.60
29	We can apply the necessary quantity of zinc into the soil with the help of information given in soil health card.	116	48.30	99	41.30	25	10.40
30	We can apply the necessary quantity of iron into the soil with the help of information given in soil health card.	109	45.40	96	40.00	35	14.60
31	We can apply the necessary quantity of magnesium into the soil with the help of information given in soil health card.	111	46.30	91	37.90	38	15.80
32	We can apply the necessary quantity of Manganese into the soil with the help of information given in soil health card.	101	42.10	87	36.30	52	21.70

A bird's eye view of table 1 and 2 revealed that the majority (79.58%) of SHC scheme farmers had possessed a moderate level of perception about SHC scheme followed by 12.09 and 8.33 per cent had good and poor level of perception about SHC scheme respectively. The probable reason might be due to the fact that farmer had education up to secondary level, medium level of mass media exposure and good scientific orientation and another thing is that little bit of misconception regarding soil health cards and the more important thing is the state agriculture department should properly follow up and measures to be taken for timely delivery of the card and also simplify the components of SHC to farmer level so the perception of Soil Health Card will be effective.

## CONCLUSIONS

It can be concluded from the study that the majority of the respondents had a moderate level of perception which in turn reflects that the contents and benefits of the soil health card are being moderately perceived by the farmers. It was also found that perception regarding soil health card was not only affected by the basic characteristics of the farmers i.e. education, landholding, extension contact, mass media exposure, innovativeness, scientific orientation, achievement motivation but also by the level of awareness towards soil health card scheme. The need is to implement the Soil health Card scheme emphatically which will help in improving the awareness among farmers regarding SHT. Simultaneously there is a need to set up laboratories in large numbers so that Soil testing becomes easy for the farmers. Development and popularization of low-cost technologies for SHT so that farmers use them in their fields and on their own is the need of the hour. An understanding of the perception of farmers and description of constraints faced by the respondents may serve as feedback to the planners, policymakers, extension personnel, scientist and development agencies to make suitable strategy in the implementation of the scheme.

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