J Krishi Vigyan 2019, 8 (1) : 225-230 DOI : 10.5958/2349-4433.2019.00103.X

Perception and Adoption of Soil Health Cards by Farmers in YSR Kadapa District of Andhra Pradesh

Veeraiah[1] A, Shilpakala[1] V, Ramalakshmi devi[2] S and Ankaiah Kumar[2] K

Krishi Vigyan Kendra, Utukur, Kadapa , YSR District– 516 003(Andhra Pradesh)

ABSTRACT

The present study was conducted to know the perception and adoption of soil health card recommendations through purposive sampling of 60 respondents selected from twelve divisions of the district. The data collected through interview schedule prepared for the purpose. The results showed that majority of respondents had medium level of perception (91.67%) and adoption (71.67%). The correlation Coefficients between independent variables, and dependent variables *i.e.,* perception and adoption showed non – significant relationship. With regard to constraints in adoption, respondents expressed that crop not sown due to lack of rains, not able to understand the results given in soil health cards and lack of faith in the results presented in soil health cards were the major constraints.

Key Words: Adoption, Perception, Soil health, Soil fertility.

INTRODUCTION

Soil health and fertility are the basis for sustainable profitability of the farmers all over the world.Further, utilising optimum doses of fertilisers & cropping pattern according to scientific recommendation is the initial step towards sustainable farming. As far as agriculture production is concerned, soil health play vital role in ensuring sustainable production with optimizing with utilization of fertilizer and reducing its waste (Patel *et al*, 2017). Neufeld *et al*(2006) stated that soil testing is necessary and available tool for determining the amount of soil nutrients. For this reason, Government of India launched Soil health card scheme on 19 February, 2015. The scheme aims at promoting soil test based and balanced use of fertilisers to enable farmers to realise higher yields at low cost and also to make them aware about the appropriate amount of nutrients for the concerned crop depending on the quality of soil.

Soil health card is basically printed report that a farmer is given for all his land holdings. It contains the status of soil considering 12 parameters N, P, K, S, Zn, Fe, Cu, Mn, Bo and PH, EC, OC. Based on all these parameters the soil health card will specify fertilizer recommendations and soil changes required for the farm. SHC (Soil health card) will be made available once in every 3 yr to farmers and this will indicate the status of soil health of his land for that particular period. The state government collects soil samples twice in a year after harvesting of *Kharif* and *Rabi* crop or when there is no standing crop. The main motive behind introducing the soil health scheme was to discover the type of particular soil and then tell farmers as to how they can improve it.

Knowing the motive and importance of the soil health card the present investigation was undertaken to study the farmers perception and adoption of soil health card recommendations and constraints associated with adoption of SHC's by farmers.

MATERIALS AND METHODS:

The present study was conducted in YSR district of Andhra Pradesh. The district consists of 12 Agricultural divisions and 51 mandals. 12 Agricultural divisions were selected purposively and one mandal from each division i.e., 12 mandals and 5 farmers from each mandal thus, making a

Corresponding Author's Email: daattc.kadapa@gmail.com

[1]District Agricultural Advisory and Transfer of Technology Centre

Table 1. Distribution of respondents according to their personal, socio, economic characteristics . (N=60)

Sr. No	Characteristic	Frequency	Percentage
1.	**Age**		
	Young age (Up to 35 Yr)	9	15
	Middle age (36 – 50 Yr)	35	58
	High age group(Above 50 Yr)	16	27
2.	**Education**		
	Illiterate	12	20
	Primary (1st to 7th Standard)	10	17
	High School (8th to 10th Standard)	15	25
	Intermediate (11th to 12th Standard)	9	15
	Graduate &above	13	23
3	**Farming Experience**		
	Below 10 Yr	05	08
	In between 10 – 20 Yr	27	45
	Above 20 Yr	28	47
4	**Size of Holding**		
	Marginal (Below 1 ha)	7	12
	Small (1 – 2.5 ha)	35	58
	Medium(2.5 – 5 ha)	13	22
	Large(Above 5 ha)	05	08
5	**Annual Income**		
	Below 1 lakh	45	75
	Inbetween 1 – 2 Lakh	15	25
	Above 2 Lakh	-	-
6.	**Sources of information**		
	Scientists	14	23
	ADA's	1	2
	MAO's	22	37
	AEO's	14	23
	Neighbours	8	13
	Private dealers	1	2
7	**Family Type**		
	Joint	27	45
	Nuclear	33	55

8	**Family size**		
	Up to 5	40	67
	5 and above	20	33
9	**Social participation**		
	No membership	41	68
	Membership in one organisation	19	22
10	**Extension contact**		
	Frequently	19	32
	Some times	27	45
	Rarely	14	23

total of 60 farmers for the study. To determine the perception, adoption and constraints in adoption of soil health cards, an interview schedule was prepared. For perception measurement, 11 statements on three points continuum with the score of agree 3 undecided 2 and Disagree 1 were given for the response of farmers. With regard to adoption, 6 statements with two point continuum with the score of adopted 2 and not adopted 1 was given for respondents. For assessing the constraints/ reasons for non adoption, a response was recorded in the schedule itself. The frequency and percentage for each were worked out and rank was given based on frequency and percentage. Statistics such as frequency, percentage, Mean, SD and correlation coefficients were used in the presentation.

RESULTS AND DISCUSSION

Characteristics of respondents

The data (Table I) indicated that majority of the respondents (58%) from middle age group followed by 27 per cent and 15 per cent from high age group and young age group, respectively. This might be due to moving of young age people for other occupations. In cities due to higher income compared to Agriculture.

In case of education, majority (25%) of the respondents were educated up to high school level, where as 23 per cent up to Graduate level 20 per cent were illiterates. 17 per cent up to primary school level and 15 per cent were Intermediate level. This might be due to lack of Job opportunities for high school and below high school level of education and they stayed in villages and depend on Agriculture for income.

The data (Table 1) revealed that majority (47%) belong to above 20 yr of farming experience, where as 45 and 8 per cent respondents possessed 10 – 20 yr and below 10 yr of farming experience, respectively. This might be due to continuation of old age people in farming and moving of young people to cities for other jobs. The data about size of holding indicated, majority (58%) belongs to small farmers, 22 per cent possessed medium holdings, 12 per cent possessed marginal holdings and 8 per cent possessed large holdings.

The data (Table 1) indicated that majority 75 per cent getting below one *Lakh* income per annum and where as 25 per cent respondents gained between 1 – 2 *lakh* annual income/yr. This might be due to majority of the respondents belongs to small and marginal farmers and also due to level of income in agriculture compared to other enterprises. The study revealed that majority 37 per cent respondents contacted mandal agricultural officer for information on agriculture, where as 23 per cent contacted scientists. 23 per cent agricultural extension officers, 13 per cent neighbours, 2 per cent ADA's and 2 per cent approached private dealers. This might be due to availability of mandal Agricultural officers very nearer to them in terms of distance. Majority (55%) belonged to nuclear family and 45 per cent had joint

family. This might be due to preference of people towards nuclear families compared to joint families at present in the existing society.

The data further indicated that majority (67%) respondents contains up to 5 members only in their family, where as 33 per cent of respondents contains family size of above 5 members. This might be due to preference for nuclear families and also due to self imposed restriction of having one or two children per family. The above data also revealed that majority (68%) of respondents had no membership in organisation; where as 32 per cent of respondents had membership in one organisation. Further majority (45%) had extension contact sometimes only, 32 per cent of respondents had frequent extension contact and 23 per cent had rare extension contact. This might be due to that the programmes related to agriculture not regularly attended by the farmers and also not approaching the extension agencies for solving day to day problems of Agriculture.

Table 2. Perception level of farmers. (N=60)

Sr.No	Characteristic	Frequency	Percentage
1.	Low Perception	05	8.33
2.	Medium Perception	55	91.67
3.	High Perception	Nil	Nil

It could be observed that majority of the respondents (91.67%) had medium level of perception, followed by low level of perception (8.33%) and high level of perception observed were nil. From the above results, it could be concluded that majority of respondents had medium level of perception about soil health card recommendations and its use.

Table 3. Adoption level of farmers. (N=60)

Sr.No	Level of Adoption	Frequency	Percentage
1.	Low	17	28.33
2.	Medium	43	71.67
3.	High	Nil	Nil

It could be seen that majority of farmers (71.67%) had medium level of adoption of soil health card recommendations followed by low level of adoption (28.33%) and Nil observed under the category of high level of adoption. From the above findings, it could be concluded that majority of the farmers had medium level of adoption with regard to soil health card recommendations. The low level knowledge was the reason for low adoption percentage.

It was evident that the computed 'r' value between age, education, experience in farming, size of holding, annual income, sources of information,

Table 4. Relationship between personal, socio economic characteristics of farmers and their perception and adoption of soil health card recommendations.

Sr.No	Variable	Correlation Co-efficient 'r' value	
		Perception	Adoption
1.	Age	-0.13	0.00
2.	Annual income	-0.36	0.13
3.	Education	-0.16	-0.17
4.	Extension contact	0.14	0.22
5.	Experience in farming	-0.06	0.05
6.	Family size	-0.21	-0.20
7.	Family type	-0.29	-0.20
8.	Size of holding	-0.33	-0.12
9.	Social participation	0.30	0.21
10.	Sources of information	-0.31	-0.13

Table 5. Constraints faced by the farmers in adoption of soil health card. (N=60)

Sr.No	Constraint	Frequency	Percentage	Rank
1.	Crop not sown due to lack of rains	8	14.81	I
2.	Not able to understand the results given in soil health cards	4	7.40	II
3.	Lack of faith in the results presented in soil health cards	4	7.40	II
4.	Lack of irrigation facilities	3	5.50	III
5.	Use of more fertilisers leads to more yields	2	3.70	IV
6.	Expected yield will not be obtained	2	3.70	IV
7.	Soil testing not done in their fields	2	3.70	V
8.	Non issuance of new soil health cards	2	3.70	IV
9.	Same results were observed in other cards	1	1.85	V
10.	Low yields even if STBF application followed	1	1.85	V
11.	Following the neighbouring farmers	1	1.85	V
12.	Lack of timely rains	1	1.85	V

family size and family type were non significant negative correlation observed with perception of farmers about soil health card recommendations, where as social participation, extension contact were found non significant positive correlation with perception of soil health card recommendations among farmers.

Further, it was evident that the computed 'r' values of education, size holding, annual income, sources of information, family size and family type were non significant negative correlation observed with adoption of soil health card recommendations, where as age, experience in farming, social participation and extension contact were found non significant positive correlation with adoption of soil health cards recommendations by the farmers(Table 4).

The perusal of data (table 5) revealed that the respondents expressed that crops not sown due to lack of rains (14.81%), not able to understand the results given in soil health cards (7.40%), Lack of faith in the results presented in soil health cards (7.40%), lack of irrigation facilities (5.50%), use of more fertilisers leads to more yields (3.70%), expected yield not obtained (3.70%) soil test was not done in their fields (3.70%) and non issue of new soil health cards (3.70%) were the constraints in adoption of soil health card recommendations. But according to Padmaja and Angadi (2018) the mean yields of *kharif* paddy, *rabi* paddy and maize before and after distribution of soil health card increased and it was not to the significant level.

CONSCLUSION

The study revealed that the respondents were dominated by middle age group having high school education with high farming experience. Similar findings were reported by Chowdary *et al* (2018). The majority farmers were with small holdings and with majority were below one Lakh income. Majority were approached mandal agricultural officer for their information, families were nuclear in nature with below 5 family members, majority no social participation and extension contact with some times only.

Further, the majority respondents showed medium level of perception and adoption. The relationship between personal, socio-economic characteristics and their perception and adoption of soil health card recommendations also showed non significant relationship. The adoption of soil health card recommendations by the respondents was affected by the constraints *i.e.,* non sowing of the crop due to lack of rains, not able to understand the results given in soil health cards, Lack of faith

in the results presented in soil health cards and Lack of irrigation facilities etc. In order to improve the adoption of soil health card recommendations, practical demonstrations to be organised on large scale, awareness meetings on interpretation soil health cards and taking samples before farmer presence are needed.

REFERENCES

Chouhan R S, Sharma H O, Rathi D and Niranjan H K(2017). Impact of soil health card scheme on farmers' income- A case study of *kharif* crops in Madhya Pradesh. *Agril Econ Res Rev* **30**:139-141.

Chowdary RK, Jayalakshmi M and Prasadbabu G (2018). Factors determining the soil health card adoption behaviour among farmers in Andhra Pradesh. *An Asian J Soil Sci*. **13**(1):8386.

Jadav N B, Undhad S V and Sharma P S (2018) . Growers knowledge and adoption of chemical fertilizer in Bt Cotton. *J Krishi Vigyan.* **7**(Special issue): 69-73

Neufeld J, Cramb R, Catacutan D, Culsero-Arellano Z and Mriano K (2006). Farm level impacts of land care in Lantapan. *Working paper, No. 5.* Philippines-Australia: Land Care Project.

Padmaja B and Angadi J G (2018). Utilisation of soil health card by farmers in nutrient management. *Int J Curr Microbiol App Sci* **7** (12):1583-1592.

Patel G G, Lakum Y C, Akash Mishra and Bhatt J H (2017). Awareness and knowledge regarding soil testing and utility perception of soil health card. *Int J Curr Microbiol App Sci* **6**(10):329-334.

Raghavendra chowdary K, Prasadbabu G and Theodore R (2018). Soil health card adoption behaviour of farmers in Andhra Pradesh State of India. *Int J Curr Microbiol App Sci* 7(12):4028-4035.

Veeraiah A (1991). *Study on Adoption and dissemination of critical skills in rainfed Groundnut cultivation by the farmers trained in Krishi Vigyan Kendra in Anantapur district of Andhra Pradesh. M.Sc(Ag) Thesis*, Andhra Pradesh Agricultural University, Rajendranagar, Hyderabad.

Received on 24/07/2019 Accepted on 10/11/2019