



Research Article

PERSONAL, SOCIO-ECONOMIC AND PSYCHOLOGICAL CHARACTERISTICS OF THE SOIL HEALTH CARD BENEFICIARIES IN MANDYA DISTRICT OF KARNATAKA

MADHU H.R.¹, RANGANATHA A.D.², NAGESHA G.³ AND MAHESH D.S.^{4*}

¹Department of Agricultural Extension, University of Agricultural Sciences, GKVK, Bengaluru, 560065, Karnataka, India

^{2,3}Department of Agricultural Extension, College of Agriculture, V.C.Farm, Mandya, University of Agricultural Sciences, GKVK, Bengaluru, 560065, Karnataka, India

⁴Scientist, Central Muga Eri Research & Training Institute, Central Silk Board, Ministry of Textiles: Govt. of India, Lahdoigarh, Jorhat, 785 700, Assam, India

*Corresponding Author: Email - maheshdnpara@gmail.com

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Abstract: The present study was carried out during 2018-19 to analyze the knowledge and attitude level of farmers about Soil Health Card (SHC). Out of 120 soil health card holders 60 farmers were selected from each in Mandya and Maddur taluks of Mandya district. The respondents were randomly selected for the study. Data was collected using a pre-tested interview schedule. A large number of the farmers (49.16%) had medium level of overall knowledge regarding SHC, while 27.50 and 23.33 percent of the farmers had high and low level of overall knowledge regarding SHC, respectively. It was also found that a majority of farmers (80.00%) were having favorable to more favorable attitude towards SHC. Education, achievement motivation, management orientation, scientific orientation, Cosmo politeness, mass media exposure, risk orientation, extension agency and extension participation of farmers had significant to highly significant association with their knowledge and attitude towards SHC. Around 70 and 72 percent of the variation in the knowledge and attitude level of farmers respectively It was explained by all the 14 independent variables selected for the research study. Delay in distribution of soil health cards, fertilizers calculations are not given in SHC, difficulty in following the soil test-based results, illiteracy of farmers, lack of awareness regarding method of soil sampling and inadequate follow-up by extension agency were the major problems faced by the farmers.

Keywords: Personal, Socio-Economic, Psychological Characteristics, Soil Health Card

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Introduction

Fertilizers contribute about 50% of the increased yield as a component of improved technology. India is the largest producer and consumer of fertilizers in the world after China and USA. It accounts for 12.20% of the world's production of nitrogenous and phosphatic nutrients and 12.60 percent of the world's consumption of N, P and K nutrients [1]. In India, the current consumption of NPK ratio is 6.7:2.4:1, which is highly skewed towards nitrogen as against ideal ratio of 4:2:1. India spent nearly seventy thousand crore rupees on fertilizer subsidy every year. According to the estimates, subsidy amount was about Rs.5000 per hectare of net cropped area and about Rs.5100 per farmer resulting in excessive use of fertilizers, especially NPK at the cost of micro-nutrients and manures [2]. Hence, there is a need for balanced use of fertilizers and focus on maintenance of soil quality or soil health.

Soil health plays a vital role to ensure agricultural production in a sustainable manner. Deteriorating soil health has been a cause of concern, which has been leading to sub-optimal utilization of farm resources. Soil health needs to be assessed at regular intervals so as to ensure that farmers apply the required nutrients while taking advantage of the native soil nutrients.

There are no uniform norms followed in the country for soil analysis and distribution of such information before the issue of Soil health cards. Further, these initiatives were sporadic and random and therefore did not cover all the farmers within a particular time cycle. Keeping this in view, central government had launched the soil health card scheme in February 2015 with an aim to promote soil test-based application of fertilizers.

An earnest attempt has been made in this study to explore the personal, socio-economic and psychological characteristics of farmers towards soil health card.

This provides a valuable feedback to the government about the effectiveness of soil health card scheme.

Material and Methods

The Ex-post-facto-research design was used for the study. The study was conducted in Mandya district of Karnataka state during the year 2018-19. Mandya district was purposively chosen for the study as it is significantly distributed highest number of soil health cards to farmers as compare to other districts of the state. Mandya and Maddur talukas were selected among the seven talukas of the Mandya district, based on the highest number of soil health card distributed. The top six villages having the highest number of soil health card holders in Mandya and Maddur taluks were selected from the district for the purpose of the study. 60 respondents were selected from each taluk. Thus, the total sample constituted to 120 farmers. The independent variables for the present investigation were chosen based on the available literature and the objectives of the investigation. Information regarding 14 independent variables (profile characteristics) was measured using standardized procedure/scale. The collected data was analyzed using frequency, percentage, mean, and standard deviation. The variables chosen for the study along with their empirical measurements are presented here under the following headings.

Result and Discussion

Information regarding 14 independent variables (profile characteristics) was measured using standardized procedure/scale. The collected data was analysed using frequency, percentage, mean, standard deviation and chi square test. The findings of the research study are as follows:

Independent variable

1	Age	Chronological age completed in years
2	Education	Procedure followed [3]
3	Annual income	Schedule will be developed
4	Occupation	Procedure followed [14]
5	Land holding size	Government of Karnataka (1992-93), procedure followed [5]
6	Farming experience	Procedure followed [29]
7	Scientific orientation	Scale developed with slight modification [6]
8	Risk orientation	Procedure followed [3]
9	Management orientation	Scale developed [7]
10	Achievement motivation	Scale developed [8]
11	Cosmopolitaness	Schedule was developed
12	Extension participation	Procedure followed with modification [9]
13	Mass media exposure	Procedure followed [9]
14	Extension contact	Procedure followed [3]

Personal characteristics of the soil health card beneficiaries

1. Age

[Table-1] reveals that as high as 44.16 percent of the SHC beneficiaries were belonging to middle age group, while one third (33.33%) of the SHC beneficiaries were belonging to old age group and the remaining 22.50 percent of the beneficiaries were belonging to young age group. The possible reasons for the above trend might be due to, the middle-aged farmers were optimistic, have interest and ready to take up any new technologies to earn profit. The results are in conformity with the study of Roy, *et al.*, (2012) [10], Madhushekhara (2009) [11] and Subhash (2018) [12].

2. Education

With regard to level of education, it can be observed from [Table-1] that 21.66, 20.83, 20.00, 19.16, 4.16 and 3.33 percent of the farmers had studied up to PUC, high school, middle school, primary school, graduation and post-graduation respectively. Whereas, 0.83 percent of the farmers were illiterate. The probable reason for majority of farmers to be educated up to high school might be due to their medium annual family income and availability of high schools in their village. Lack of facilities for higher education in nearby villages, which forces them to travel to cities if to pursue college education that may be the reasons for lesser percentage. The reason behind illiterates could be their lack of interest, lack of encouragement from family members and their poor economic status. Therefore, efforts are needed to educate the illiterates and school drop-outs through adult education and functional literacy programs in villages to increase the level of education. This investigation result is in line with the studies of Mahadik (1995) [13].

Table 1 Personal characteristics of the soil health card beneficiaries (n=120)

Characteristics	Category	Farmers	
		Number	Percent
Age	Young (< 35 years)	27	22.50
	Middle (35 to 50 years)	53	44.16
	Old (> 50 years)	40	33.33
Education	Illiterate	13	10.83
	Primary school	23	19.16
	Middle school	24	20.00
	High school	25	20.83
	PUC	26	21.66
	Graduation	5	4.16
	Post-graduation	4	3.33
Land holding	Marginal farmers	20	16.66
	Small farmers	75	62.50
	Semi-medium farmers	21	17.50
	Medium farmers	4	3.33
	Large farmers	0	0.00
Occupation	Farming only	34	28.33
	Farming+ subsidiary enterprise	86	71.66
Farming experience	Less	28	23.33
	Medium	51	42.50
	More	41	34.16

3. Land holding

It was also observed from the [Table-1] that 62.50, 17.50, 16.66, 3.33 and 0

percent of the farmers were small, semi-medium, marginal, medium and large respectively. It could be inferred that majority of the SHC holders had possessed small size of land holding. It might be due to fragmentation of land within the family at rural area. The results are in conformity with the study of Ambedkar (2010) [14].

4. Occupation

The table shows that majorities (71.66 %) of the respondents were involved in farming along with subsidiary enterprises and just 28.33 percent were involved only in farming. The results are in conformity with the study of Bhatt, *et al.*, (2011) [15].

5. Farming experience

The table also reveals that a greater number of farmers (42.50%) had medium level of farm experience followed by 34.16 percent of farmers were having more farming experience and 23.33 of farmers were having less farming experience. The probable reason for medium to high level of experience in farming might be that the working with elder members of the family, they might be getting the benefit of farming skills from their guardians and increasing awareness of shouldering responsibilities to rural youth at the early age. The results are in line with the study of Kumar, *et al.*, (2011) [16].

Socio-economic characteristics of the soil health card beneficiaries

1. Annual income

The data depicted in [Table-2] also shows that a greater number of farmers were belonging to low income group (50.83%), while 32.50 and 16.66 percent of the farmers were belonging to medium and high-income groups, respectively. The probable reason which could be attributed to varied income categories of farmers land holding, adoption of improved practices and practicing of subsidiary occupations by the respondents. The results are in conformity with the study of Lop mudra (2016).

Table-2 Socio-economic characteristics of the soil health card beneficiaries (n=120)

1	Annual income	Low (< Rs.20254)	61	50.83
		Medium (Rs.20254 to Rs.32651)	39	32.50
		High (> Rs.32651)	20	16.66
2	Cosmopolitaness	Low	41	34.16
		Medium	27	22.50
		High	52	43.33
3	Mass media exposure	Low	39	32.50
		Medium	50	41.66
		High	31	25.83
4	Extension agency contact	Low	35	29.16
		Medium	36	30.00
		High	49	40.83
5	Extension participation	Low	35	29.16
		Medium	48	40.00
		High	37	30.83

2. Cosmo politeness

[Table-2] shows that greater number of farmers (43.34%) were having high level of cosmopolitaness, whereas a little over one third (34.16%) and 22.50 percent of the farmers were having low and medium level of cosmopolitaness, respectively. Cosmo politeness was the degree to which a farmer was oriented outside his community to seek information. Here farmers had higher cosmo politeness may be due to their sound economic conditions and resources thereby leading to their active participation in extension activities like tours, exhibitions, krishimelas and due to their higher social participation. The results are in conformity with the study of Avinash (2013) [17].

3. Mass media exposure

[Table-2] reveals that as high as 41.66 percent of the farmers were falling under medium level of mass media exposure, while 32.50 and 25.83 percent of the farmers were falling under low and high level of mass media exposure, respectively.

Mass media contact enhances the ability of farmers to get more information about a technology or innovation and in turn widens the mental horizon of the farmers to accept and adopt the practices. Mass media provides information on agriculture through various channels like television, radio, newspaper etc., which reinforces confidence in farmers to take up new activities or try out new innovations. The results are in conformity with the study of Sunitha (2012) [18]; Priyanka (2014) [19] and More (2014) [20].

4. Extension agency contact

A greater number of farmers (40.83%) were having high level of extension agency contact, while 30.00 and 29.16 percent of the farmers were having medium and low level of extension agency contact, respectively [Table-2]. The liable reason for the high extension contacts of farmers might be that, the regular and frequent visits of the farmers to ICAR KVK to get information about soil testing and also information provided by agriculture officers about the improved practices whenever needed. The results are in conformity with the study of Sunitha (2012) [18].

5. Extension participation

[Table-2] depicts that as high as 40.00 percent of the farmers had medium level of extension participation, whereas 30.83 and 29.16 percent of the farmers had high and low level of extension participation, respectively. The pertinent reasons are, the most of the farmers belonged to medium category because of they had good contact with field functionaries of line department and private companies as a result they participate actively in various extension activities to gather recent information and to know the worth of the technology. The results are in conformity with the study of Parmar (2014) [21].

Psychological characteristics of the soil health card beneficiaries

1. Achievement motivation

[Table-3] shows that majority of the farmers (42.50%) were having medium level of achievement motivation. Whereas, 29.16 and 28.33 percent of the farmers were having high and low level of achievement motivation respectively. Achievement motivation was more of a psychological variable which differs from individual to individual. It assumed that achievement motivation forces the individual towards reaching the set goals. The reasons behind majority of the farmers having medium achievement motivation was they are operating small size of land holding and their social and economic conditions might have not permitted them to have higher achievement orientation. The results are in conformity with the study of Bharath Kumar (2010) [22] and Madhushree (2014) [23].

2. Management orientation

The [Table-3] also shows that 42.50 percent of the farmers had medium level of management orientation, while one third (33.33%) and 24.16 percent of the farmers had high and low level of management orientation, respectively. The probable reason for the above trend may be that, field extension personnel of KSDA had interactions with farmers to manage the production and marketing activities and to re-orient their level of management. The results are in conformity with the study of Lavanya (2010) [24].

Table-3 Psychological characteristics of the soil health card beneficiaries

1	Achievement motivation	Low	34	28.33
		Medium	51	42.50
		High	35	29.16
2	Management orientation	Low	29	24.16
		Medium	51	42.50
		High	40	33.33
3	Scientific orientation	Low	27	22.50
		Medium	49	40.83
		High	44	36.67
4	Risk orientation	Low	42	35.00
		Medium	32	26.67
		High	46	38.33

3. Scientific orientation

More number of farmers (57.50%) were having medium level of scientific orientation. Whereas 24.16 and 18.33 percent of the farmers were having low and high level of scientific orientation, respectively [Table-3]. This might be due to that they believed in science and technology related to agriculture as well as they have good innovativeness. The results are in conformity with the study of Patel (2006) [25]; Patel (2013) [26] and Dhodiya (2015) [27].

4. Risk orientation

[Table-3] also depicts that the farmers had high level risk orientation (38.33), while 35.00 and 26.67 percent of the farmers had low and medium level of risk orientation, respectively. This might be due to farmers try new methods instead of following old practice. The results are in conformity with the study of Rathod, *et al.*, (2013) [28].

Conclusion

Information regarding 14 independent variables (profile characteristics) was measured using standardized procedure/scale. Large number of farmers were of middle age, small farmers, studied up to PUC with medium level of farming experience, achievement motivation, management orientation, scientific orientation, mass media exposure and extension participation and high level of extension agency contact and risk orientation. Majority of the farmers were practicing farming with subsidiary enterprise and were belonging to low annual income group with high level of cosmopolitaness. Majority of respondents possessed favorable attitude towards soil health card and have realized the importance of soil health and its management. Hence, the implementation of Soil health card scheme needs to be continued and strengthened further.

Application of research: Helps to study the response of farmers on soil health card scheme and it helps for agricultural extension education.

Research Category: Agricultural Extension

Abbreviations: UAS: University of Agricultural Sciences
GKVK: Gandhi Krishi Vigyan Kendra

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