



Study of Socio-Economic Condition and Constraints faced by the Rice Growing Farmers in Adoption of Organic and Bio-Fertilizer in Bilaspur District of Chhattisgarh

Ayush Emmanuel Lal*

M.sc (Ag.) Agricultural Extension and Communication, SHUATS, Prayagraj

Dr. Syed H. Mazhar**

Department of Agricultural Extension and Communication, SHUATS, Prayagraj

Prof. (Dr.) Jahanara***

Head, Department of Agricultural Extension and Communication, SHUATS, Prayagraj

DOI: 10.47856/ijaast.2021.v08i7.005

Abstract: The present study was conducted in Bilaspur district of Chhattisgarh to find out socio-economic condition and constraints faced by rice growing farmers in adoption of organic and bio-fertilizer. A total of 120 respondents were selected randomly for the present study. The data was collected through a pre-structured interview schedule and later appropriate statistical analysis was done to find out meaningful results. The result showed that there were eight main constraints perceived by the farmers which were complicated method of application, long process of organic fertilizer preparation, lack of knowledge about type and recommended doses, supply agency at long distance, lack of guidance from extension personal, organic and Bio-fertilizer are costly, lack of conviction about the merits of the practice and mishandling and poor quality of bio-fertilizer out of which mishandling and poor quality of bio-fertilizer with weighted mean score of 2.47 **ranked I** and Long process of organic fertilizer preparation with weighted mean score of 2.16 **ranked II**.

Introduction

India is a global agricultural powerhouse agriculture with its allied sectors, is the largest livelihood provider in India About seventy percent of the population depends on agriculture. The development of agriculture has much to do with the economic welfare of our country. Rice (*Oryza sativa*) production in India is an important part of national economy. Rice is one of the chief grains of India. Moreover the country has the largest area under rice cultivation, as it is the



principle crop. Fertilizers play a very important role in increasing the crop output and ensuring food security. Bio-fertilizers are living micro-organisms of bacterial, fungal and algal origin. Bio-fertilizer promote the adequate supply of nutrients to the host plants and ensure their proper development of growth and regulation in their physiology (**Pathak *et al.*, 2016**). Organic fertilizers comprise a variety of plant derived materials that range from fresh or dried plant material to animal manures and litters to agricultural byproducts (**Wohlfarth and Schroeder, 1979; Das and Jana, 2003; Kumar *et al.*, 2004**). Organic fertilizer application is a widely accepted strategy to sustain or improve crop yield and soil organic carbon stock (**Manna *et al* 2007**). Through the use of organic and bio-fertilizer many problems currently faced by farmers can be reduced but adoption of organic and bio-fertilizer were found to be medium to low

Looking at the significance of organic and bio-fertilizer in agriculture and their adoption by farmers, the study of socio-economic condition and constraints faced by the farmers in adoption of organic and bio-fertilizer was conducted keeping in view of increasing the adoption

Research Methodology

The study was conducted in Kota block of Bilaspur district of Chhattisgarh state, which was purposively selected because there were more progressive farmers in Kota block and farmers were trained by extension agencies in organic farming which mandates the use of organic and bio-fertilizers . The sample is comprised of 120 respondents from 7 villages which were selected randomly. The pre-structured interview schedule was prepared for data collection. Descriptive research design was used for this study. The statistical tool such as frequency, percent and weighted mean score were used to interpret the data and for drawing logical conclusion.

Result and Discussion

Table 1 socio-economics status of respondents

S.NO	Independent variables	Category	Frequency	Percentage
1.	Age	Young (below 35)	57	47.50
		Middle (35 to 55)	39	32.50
		Old (above 55)	24	20.00
2.	Education	Illiterate	21	17.50
		Up to Primary school (1 st to 5 th)	33	27.50
		Up to Secondary school (6 th to 10 th)	42	35.00
		Up to Senior secondary school (11 th to 12 th)	18	14.50



		Graduate and above	6	5.00
3.	Annual income	Up to Rs.50,000	22	18.33
		Rs.50,001 to 1,00,000	46	39.33
		Rs.1,00,001-2,00,000	51	42.34
4.	Size of landholding	Less than 2.5 acre (marginal)	42	35.00
		2.6 to 5 acre (small)	54	45.00
		5.1 to 10 acre (medium)	18	15.00
		Above 10 acre (large)	6	5.00
5.	Level of mass media exposure	Low	42	35.00
		Medium	64	53.33
		High	14	11.67
6.	Level of extension contacts	Low	52	43.34
		Medium	56	46.66
		High	12	10.00
7.	Level of risk orientation	Low	57	47.50
		Medium	42	35.00
		High	21	17.50

From the above table 1. It is evident that 47.50 per cent of respondents belonged to the age group of below 35 years i.e. young age category, majority of respondents were educated up to secondary school (Todasum 2009), In terms of annual income 42.34 per cent of respondents have an annual income of between Rs.1,00,001-2,00,000, 45.00 per cent of respondents have landholding of 2.6 to 5 acre (Padmavathy 2011), about 53.33 per cent of respondents have medium level of mass media exposure (Banal *et al* 2010), in terms of extension contacts about 46.66 per cent of respondents had low level of extension contacts and about 47.50 per cent of respondents have low level of risk orientation.

Table 2 Distribution of respondents according to the constraints perceived by farmers

S.No.	Constraints	Very serious	Serious	Not so serious	Total weighted score	Weighted mean score	Rank
		F (P)	F (P)	F (P)			
1.	Complicated method of application	28 (23.33)	32 (26.67)	60 (50)	208	1.73	VII
2.	Long process of organic fertilizer preparation	44 (36.66)	52 (44.32)	24 (19.01)	260	2.16	II



3.	Lack of knowledge about type and recommended doses	19 (15.83)	38 (31.66)	63 (52,51)	196	1.66	VIII
4.	Supply agency at long distance	40 (33.33)	53 (44.16)	27 (22.51)	253	2.10	III
5.	Lack of guidance from extension personal	44 (36.66)	36 (30)	40 (33.34)	244	2.03	V
6.	Organic and Bio-fertilizer are costly	34 (28.33)	60 (50)	26 (21.67)	248	2.06	IV
7.	Lack of conviction about the merits of the practice	20 (16.67)	49 (40.83)	51 (42.5)	209	1.74	VI
8.	Mishandling and poor quality of bio-fertilizer	74 (61.68)	29 (24.16)	17 (14.16)	297	2.47	I

The data represented in table 2. shows analysis of eight constraints for ranking which indicated that “Mishandling and poor quality of bio-fertilizer” and “Long process of organic fertilizer preparation” are ranked 1st and 2nd with weighted mean score of 2.47 and 2.16 respectively. Further it was observed that “Supply agency at long distance” ranked 3rd with weighted mean score of 2.10 followed by “Organic and Bio-fertilizer are costly” ranked 4th with weighted mean score of 2.06 followed by “Lack of guidance from extension personal” ranked 5th with weighted mean score of 2.03 followed by “Lack of conviction about the merits of the practice” ranked 6th with weighted mean score of 1.74. “Organic and Bio-fertilizer are costly” and “Lack of knowledge about type and recommended doses” are ranked 7th and 8th with weighted mean score of 1.73 and 1.66 respectively.

The findings of different researchers are similar with the study on different constraints, unavailability and high cost of organic inputs (Biswas *et al.*, 2011), slow process of organic fertilizer preparation and supply agencies at long distance (Namdev *et al.*, 2011). Also because of exclusive focus on chemical fertilizers by government and input services, use of organic and bio-fertilizers is averted. There are several factors which affect the application of organic fertilizer and bio-fertilizer such as long process of preparation, collection of organic resources,



competitive usage of organic materials such as cow dung used for plastering houses, Unavailability of bio-fertilizer, and complicated method of application of bio-fertilizer.

Conclusion

It was concluded from the present study that majority of respondents were young age group, educated up to secondary school having annual income between Rs.1,00,001 to 2,00,000 with small size of landholding having medium level of mass media exposure, extension contacts and low level of risk orientation. It was observed that mishandling and poor quality of bio-fertilizer, long process of organic fertilizer preparation, supply agency at long distance and high cost of organic and bio-fertilizer are the main constraints for adoption of organic and bio-fertilizer among rice growers. Government should ensure the availability of organic and bio-fertilizer through village co-operatives so that its price and quality can be properly regulated. Farmers should practice animal husbandry along with farming as its waste could be used to produce and multiply organic and bio-fertilizer. More field demonstration should be done by extension agencies so that farmers will understand recommended application of organic and bio-fertilizer.

References

- [1]. Banal, Deepak, Patel, M.M., Jain, M.P. and Singh, V.B. 2010 Adoption of dryland technology. *Indian J. Dryland Agric. Res. & Dev.* 25(1): 111-116.
- [2]. Biswal, Rajan K., Majundr, D. and Sinha, Ashok. 2011. Impacts and constraints: Evaluation of organic farming in West Bengal. Agro-economic research centre, Visva bharti, Santiniketan.
- [3]. Manna M C, Swarup A, Wanjari R H, Mishra B, Shahi D K. 2007. Long-term fertilization, manure and liming effects on soil organic matter and crop yields. *Soil & Tillage Research*, 94, 397–409.
- [4]. Najmeh, D., Kurosh, R.M. and Cyrus, S. 2015. Factors affecting sustainable rice farming: The case of rice farmers in the Mazandararan Province, Iran. *Journal of Natural and Social Science*. 4(1): 8-16.
- [5]. Pathak Anand Kumar, Jahanara (2018) “Extent of adoption of Bio fertilizer by the respondents in Bhadohi district (Uttar Pradesh)”, *International journal of research culture society* ISSN: 2456-6683 Volume - 2, Issue – 5.
- [6]. Todassum, P. M. 2009 Utility perception of soybean growers about recommended soybean cultivation technologies. M.Sc. (Agril) Thesis, Dr. PDKV, Akola.
- [7]. Wohlfarth and Schroeder, 1979; Das and Jana, 2003; Kumar et al., 2004 “Feed and feeding practices in aquaculture”, *Woodhead Publishing Series in Food Science, Technology and Nutrition* 2015, Pages 27-52.