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Factors influencing adoption level of farmers regarding organic farming in eastern UP

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Abstract
This study was undertaken in three districts selected randomly from each Zone namely (1) North Eastern Plains Zone (2) Eastern Plains Zone (3) Vindhyan Zone in Eastern Uttar Pradesh. From each selected district, two blocks were selected randomly. Thereafter two villages from each block was selected randomly, thus make a total 12 villages. The majority of respondents were of middle aged and literate including formal and informal education. Highest number of the respondents (55.83%) was observed in the medium category (33 to 44) of materials possession. Majority of farmers (60.41%) had medium level of overall extent of awareness about organic farming practices. The variables like age, family size, material possession and economic motivation, were found positively correlated but not significant with adoption level regarding organic farming practices. The variables like education, caste, family type, housing pattern, land holding, occupation, income, social participation, extension contact, value orientation, risk orientation and attitude were found negatively correlated but not significant with adoption level regarding organic farming practices.

Keywords: block, proportionate, age, education, overall materials possession, organic farming practices, adoption, correlations etc

Introduction
The organic movement in India has its origin in the work of Howard who formulated and conceptualized most of the views which were later accepted by those people who became active in this movement. Organic farming is a production system which avoids, or largely excludes, the use of synthetic fertilizers, pesticides, growth regulators, and livestock feed additives.

The Indian government has initiated various promotional activities, such as setting up a National Institute of Organic Farming in Ghaziabad, Uttar Pradesh, in 2003, appointment of accreditation and certifying agencies for organic farm products, developing norms for certifying organic products and providing financial support to implement promotional activities for organic farming. The task force constituted by the Government of India has also recommended the initiation of post-graduate level courses in organic farming. One of steering committee constituted by Central Government under the chairmanship of Mr. M.S. Swaminathan, Chairman, farmer's commission, has suggested taking up organic farming as a challenging national task and to take up this as a trust area of the 10th Five Year Plan. The Ministry of Commerce launched the National Organic Program in April, 2002 and processed food products export.

"Organic farming is a production system that avoids or largely excludes the use of synthetically compounded fertilizer, pesticides, growth regulators and livestock feed additives. Organic farming systems rely to the maximum extent on crop rotations, crop residues, animal manures, legumes, green manures, off-farm organic wastes, and aspects of biological pest control to maintain soil productivity and tilt, to support plant nutrients and control insects, weeds and other pests". (Kanel, 2005) [2].

Methodology
The present study was conducted in six blocks of three districts namely Barabanki Basti, and Prayagraj of Uttar Pradesh. Each district selected two block and find out the different independent variables and their level of adoption of organic farming practices in organic farming. Those blocks namely Masauli, bani kodar, Haraiya, Vikram jot, Phulpur and Dhanupur was selected randomly having production area of agriculture.

Hence, the present study has been designed to explore the level of adoption of organic farming practices in Barabanki, Basti, and Prayagraj districts of Uttar Pradesh with specific objective.

Similarly a list of farmers in engage to farming practices of twelve selected villages was prepared and from the list 240 farmers was selected on the basis of proportionate random sampling technique. Keeping in view the objective of the study and to draw logical conclusion, statistical test i.e. frequency, percentage, mean and correlation was used for analyzing and interpreting the data.

Results and Discussion

Factors influencing adoption level of farmers regarding organic farming

In order to study the influencing adoption level of farmers regarding organic farming practices, the values of 2 were calculated for individual independent variable in relation to dependent variable as follows. In detail the overall material possession and correlation coefficient (r) between different independent variables and adoption level regarding organic farming practices was presented in following tables.

Table 1: Distribution of the respondents on the basis of age, N = 240

S. No.	Categories (Years)	Respondents	
		Frequency	Percentage
1.	Young age (up to 34)	23	9.58
2.	Middle age (35-55)	178	74.16
3.	Old age (56 and above)	39	16.25
	Total	240	100.00

Mean = 45.01, S.D. = 10.83, Min. = 28, Max. = 72

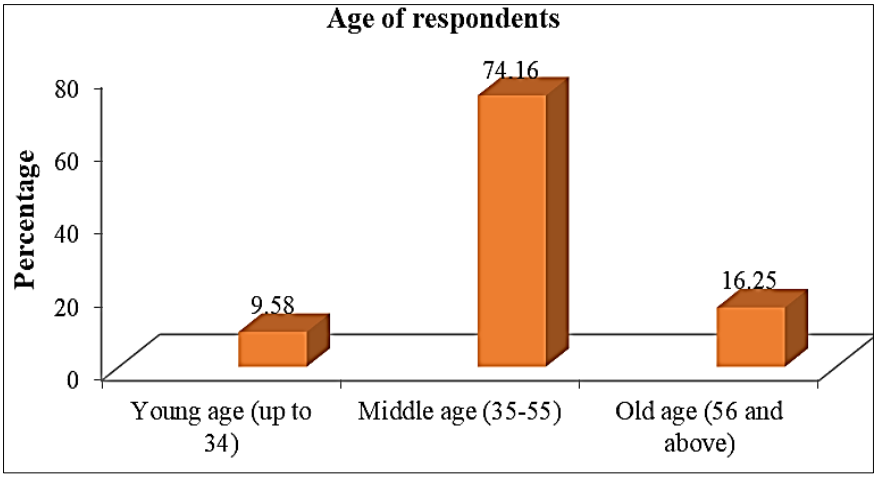

Fig 1: Age wise distribution of the respondents

The above Table-1 reveals that majority of the respondents (74.16%) belonged to middle age group (35-55 years) followed by (16.25%) of respondents belonged to old age group (56 and above) and only (9.58%) of respondents belonged to the young age group (Up to 34), respectively. The age of the selected respondents ranged from 28 to 72 years. The mean age of the respondents was observed to be 45.01 years. A similar finding was also reported that majority of the respondents was observed in the middle age Savitha (2009).

The probable reason for such distribution might be that the majority of middle age group were enthusiastic and more dynamic in performing various socio-economic activities in general and organic farming in specific.

Table 2: Distribution of the respondents on the basis of education, N = 240

S. No.	Categories	Respondents	
		Number	Percentage
A.	Illiterate	30	12.5
B.	Literate	210	87.5
I.	Primary school	20	9.52
II.	Middle school	34	16.19
III.	High school	37	17.61
IV.	Intermediate	88	41.90
V.	Graduate & Post graduate	31	14.76

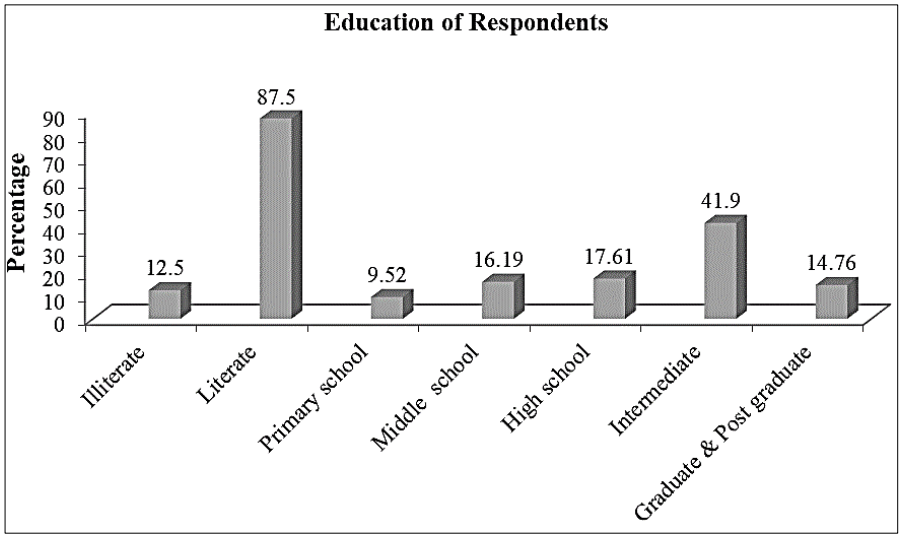

Fig 2: Education wise distribution of the respondents

The Table-2 reveals that the majority of the respondents (87.5%) were literate and 12.5 percent illiterate. Further, the educational level was worked out and given in descending order as 41.90%, 17.91%, 16.19%, 14.76% and 09.52% intermediate, high school, middle, graduate & post graduate, and primary school, respectively.

Hence, it may be said that the educational standard of the respondents was considerably good in comparison to average literacy rate of the state and country as such. The similar findings were also reported by Asih (2008).

Table 3: Distribution of the respondents on the basis of overall material possession N = 240

S. No.	Categories (Score value)	Respondents	
		Number	Percentage
1.	Low (up to 32)	61	25.41
2.	Medium (33-44)	134	55.83
3.	High (45 and above)	45	18.75
	Total	240	100.00

Mean = 38.10, S.D. = 6.41, Min. = 27, Max. = 54.

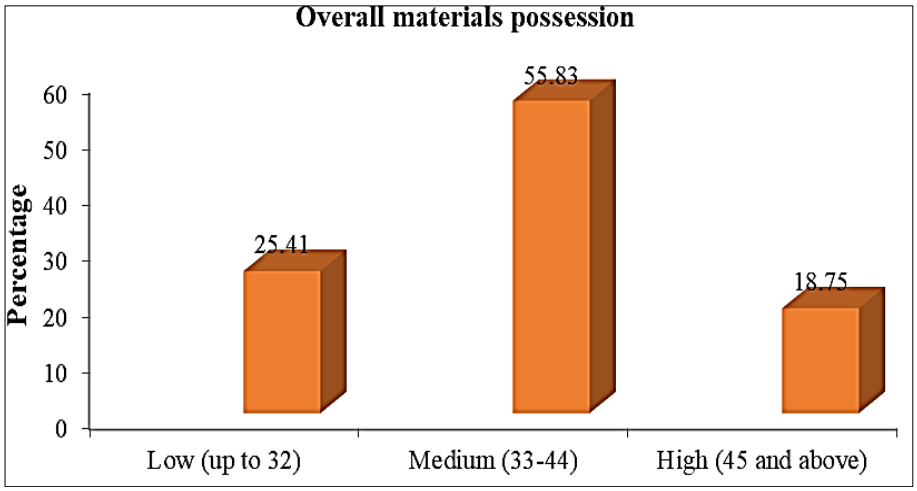

Fig 3: Overall materials possession wise distribution of the respondents

The overall material possession was categorized into three main categories on the basis of scores as low (up to 32), medium (33 to 44) and high (45 and above).

The Table-3 revealed that highest number of the respondents (55.83%) were observed in the medium category (33 to 44) of materials possession followed by (25.41%) low (up to 32) and (18.75%) high (45 and above), respectively. Thus, it can be concluded that the materials possession of respondents was appreciably better. The mean of scores for materials possession was observed to be mean 38.10, with a minimum 27 and maximum 54 scores. The similar finding was also reported by Singh *et al.* (2012).

Table 4: Distribution of respondents according to the overall awareness about organic farming practices N = 240

S. No.	Category	Respondents	
		Frequency	Percentage
1.	Low (up to 98)	65	27.08
2.	Medium (99-109)	145	60.41
3.	High (110 and above)	34	14.16
	Total	240	100.00

Mean = 103.57, S.D. = 5.96, Min = 86, Max = 125. All Possible Score-147

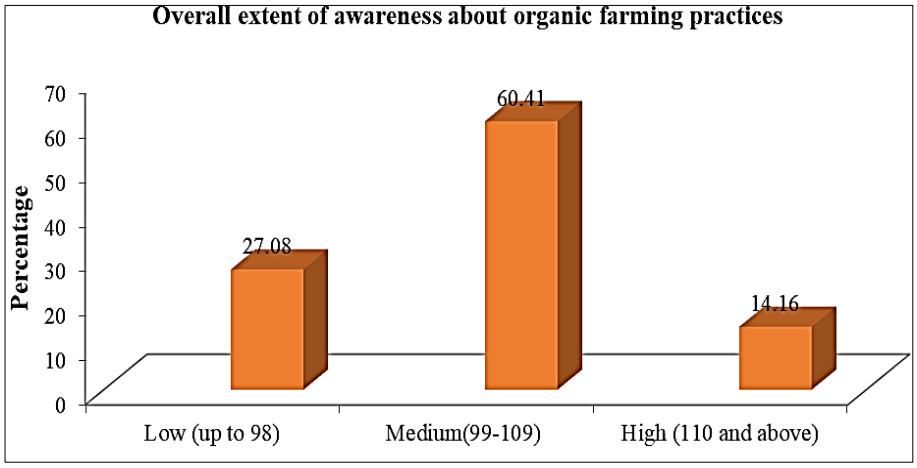

Fig 4: Overall extent of awareness about organic farming practices and distribution of the respondents

It is clear from the Table-4 that majority of farmers (60.41%) had medium level of overall extent of awareness about organic farming practices, followed by low level (27.08%) and high level (14.16%), respectively.

The level of awareness regarding the organic farming cultivation is vital for providing sound educational and policy strategies that aim at limiting the health and environmental hazards caused by organic practices etc. The majority of farmers in this study was well aware of the harmful effects of chemical fertilizers with regard to the environment and human health. This suggests that even though farmers may know the hazards of chemical fertilizers very well and they may often

adopt risky behaviors because of lack of education consequently week knowledge and understanding of organic farming practices in organic use. Hence, the farmers seem more concerned with high economic returns from their crops than with their own health.

This study showed some organic practices about cultivation of crops. This demonstrates the farmers' lack of awareness of organic farming and the appropriate approach for cultivation practices. The farmers generally demonstrated a poor awareness/knowledge about organic farming. These poor cultivation practices can lead to harmful residues in harvested produce, soil and water contamination, posing a threat to both human and environmental health.

The farmers have inability to direct link the health symptoms experienced by respondents to organic produce. The similar findings were also reported by Suman (2013).

Table 5: Correlation coefficient (r) between different independent variables and adoption level regarding organic farming practices

S. No.	Independent variable	Correlation coefficient
1.	Age	0.090666
2.	Education	-0.12781
3.	Caste Category	-0.00519
4.	Family Type	-0.02505
5.	Family Size	0.094273
6.	Housing Pattern	-0.0126
7.	Material Possession	0.141938
8.	Land Holding (ha.)	-0.04872
9.	Occupation	-0.00284
10.	Total Income	-0.0749
11.	Social Participation	-0.03252644
12.	Extension Contact	-0.034684849
13.	Value Orientations	-0.04926
14.	Economic Motivation	0.03189
15.	Risk Orientation	-0.020840781
16.	Awareness extent about organic farming practices	0.445147675**
17.	Attitude towards organic farming practices	-0.013566682

*Significant at 0.05% probability level 0.197
** Significant at 0.01% probability level 0.205

It is evident from the Table-5 that awareness extent was found highly significant and positively correlated with adoption level regarding organic farming practices. The variables like age, family size, material possession and economic motivation, were found positively correlated but not significant with adoption level regarding organic farming practices. The variables like education, caste, family type, housing pattern, land holding, occupation, income, social participation, extension contact, value orientation, risk orientation and attitude were found negatively correlated but not significant with adoption level regarding organic farming practices.

The above observations show that some selected variables exerted their influence over adoption level of the farmers. Findings support the fact that farmers with a higher age, family size, material possession and economic motivation would have a not significantly higher negative with adoption level regarding organic farming practices.

Those variables which showed the positive and not significant relationship had direct influence over with adoption level regarding organic farming practices. It meant that if the values of these variable increases, the adoption level regarding organic farming practices will also positively increase.

Conclusion

Organic farming become more accepted by government, farmers and consumers worldwide. This trend and market demand directly influence the rapid growth of organic farming in India. Therefore, it is very wise to invest in organic farming in order to improve and further develop the system in eastern Uttar Pradesh.

The Factors influencing adoption level of farmers regarding organic farming practices were the above observations show that some selected variables exerted their influence over adoption level of the farmers. Findings support the fact that farmers with a higher age, family size, material possession and economic motivation would have a not significantly higher negative with adoption level regarding organic farming practices.

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