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Knowledge and constraints faced by the organic farmers in Haryana state

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Abstract
Organic farming is not new to our country. It is age old farming practice being followed all over the world. The present study was carried out to assess the knowledge level and constraints of organic farming. A sample consist of 150 respondents (75 eastern zone and 75 western zone) selected through snowball technique were interviewed through personal interview method. The findings indicated that majority of the respondents had medium level (58.0%) of knowledge followed by high level (42.0%) of knowledge about organic farming practice. Variables education, social participation, annual income, land holding and organic farming experience were positively significant with knowledge of the respondents regarding organic farming. Majority of the respondents faced production, marketing and certification related constraints towards organic farming.

Keywords: Knowledge, constraints, organic farming, soil fertility

Introduction

Agriculture sector in India remains vital and is regarded as the backbone of the Indian economy. Agriculture contributes to meet human civilization's basic needs by supplying food, clothes, shelter, and medicine. The rapid adoption of high yielding varieties, combined with increasing agro-chemical use and enhanced irrigation systems, resulted in a massive increase in food grain production in the country. In the late 1960s, India witnessed a green revolution. In Early years, the Green Revolution produced enormous economic success. The continued adoption of modern technologies, as well as the increased use of chemical fertilizers and plant protection chemicals, has resulted in a variety of negative effects such as soil health deterioration, heavy weed infestation, a high incidence of insect-pests and diseases, ground water depletion and contamination, and so on. In this context, organic farming is one of the possibilities for avoiding or limiting the use of synthetically created fertilizers, pesticides, growth regulators, and relies on green manure, crop rotations, crop residues, and other natural resources to improve soil health and crop productivity.

Organic farming is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes to release nutrients to crops for increased sustainable production in an ecofriendly pollution free environment. Research shows that there are around 30 percent more wildlife and plants near ecological production fields compared to conventional farming. This is because there are no pesticides, and fertilizer is used far less. Organic farming is one such methods which boosters' environmental sustainability (Ramesh *et al.*, 2005) [8]. Crop rotations, crop residues, animal manures, legumes, green manures, off-farm organic wastes, and biological pest control techniques are primarily used in organic farming systems to maintain soil tilt and production, support plant nutrition, and manage insects, weeds, and other pests (Kanel, 2005) [6]. Therefore, present study was planned to assess the knowledge of organic farmers and to analyse the constraints of organic farming.

Methodology

The present study was conducted in two zones Eastern and Western zones of Haryana state. Though organic farming is much beyond the use of chemicals, the farmers who were not using chemical fertilizers and chemical pesticides/weedicides for the last five years constantly were considered as the organic growers in the present study. For the selection of respondents 75 farmers from each zone were selected for the present investigation thus, a total of 150 respondents selected for the purpose of the study through snowball technique.

A well-structured interview schedule was prepared to obtain information from respondents. The data were collected personally by the researcher. The statistical data were analysed by using frequency, percentages, arithmetic mean, weighted mean score, standard deviation and coefficient of

correlation.

Knowledge of respondents regarding organic farming

Table 1 highlighted that all the respondents had high knowledge about concept of organic farming. Majority of the respondents had high knowledge about weed and pest management (74.6%), growth promotors (50.6%), soil and seed treatment (74.0%) followed by medium (25.3%, 49.3%, 26.0%) level of knowledge respectively. 60.0 per cent of respondents had low knowledge about certification process followed by high level (25.3%) and medium level (14.6%) of knowledge.

Overall knowledge of the respondents regarding organic farming

More than half of the respondents have medium (58.0%) level of knowledge followed by 42.0 per cent of respondents had high level of knowledge regarding organic farming. This results also lined with Jaganathan *et al.* (2012) [5] reported that majority of organic (67.50%) and inorganic farmers (74.16%) had medium level of knowledge followed by high (11.67%) organic and (10.83% inorganic) and low (18.33% organic and 9.17% inorganic) levels of knowledge. Dharmanand *et al.* (2020) [1] 65.84 per cent were having medium knowledge level followed by low (22.0%) and high (19.0%).

Correlation between variables and knowledge of respondents regarding organic farming

Table 3 indicated a positive significant correlation was found between educational status, social participation, annual income, land holding, organic farming experience, training exposure, cosmopolite, mass media sources, change proneness, risk orientation, economic motivation and entrepreneurial motivation with knowledge of the respondents regarding organic farming. These results are consistent with Jaganathan *et al.* (2012) [5] who reveals that positive and significant relationship was found between innovativeness, education, mass media exposure, risk orientation, economic motivation, market orientation, extension orientation, livestock possession, level of aspiration, social participation, decision making behaviour, self-confidence and experience in organic farming with knowledge level. However, education had a significant and positive relationship with knowledge reveals that educated farmers know many things and educated farmers collect information's from various sources like mass media sources. Similar result was also reported by Jaganathan (2004) [4] and Elakkia (2007) [2].

Table 1: Knowledge of respondents regarding organic farming

N-150

S. No.	Knowledge	Categories	Score range	Frequency	Percentage	Mean and SD
1.	Concept	Low	4-6	-		11.42±0.72
		Medium	7-9	-		
		High	10-12	150	100.0	
2.	Weed and Pest management	Low	5-8	-	-	12.42±1.43
		Medium	9-11	38	25.3	
		High	12-15	112	74.6	
3.	Growth promotors	Low	7-11	-	-	16.5±1.52
		Medium	12-16	74	49.3	
		High	17-21	76	50.6	
4.	Soil and Seed treatment	Low	6-9	-	-	15.1±1.10
		Medium	10-14	39	26.0	
		High	15-18	111	74.0	
5.	Certification	Low	6-9	90	60.0	9.96±4.8
		Medium	10-14	22	14.6	
		High	15-18	38	25.3	

Table 2: Overall knowledge of the respondents regarding organic farming

N-150

Knowledge category	Frequency (%)
Low (28-46)	-
Medium (47-65)	87 (58.0)
High (66-84)	63 (42.0)
Mean	65.5
SD	6.30

Table 3: Correlation between variables and knowledge of respondents regarding organic farming

(N-150)

Variables	Correlation coefficient (r- value)
Educational status	0.331**
Social participation	0.311**
Annual income	0.267**
Land holding	0.165*
Organic farming experience	0.318**
Training exposure	0.401**
Cosmopolite Sources	0.351**
Mass media	0.319**
Change proneness	0.172*
Risk orientation	0.256**
Economic motivation	0.201**
Entrepreneurial motivation	0.179*

*- Significant at 0.5 level **- Significant at 0.1 level

Constraints faced by respondents regarding organic farming

Constraints related to production clearly indicate in table 4 that in the starting phase production is low was top ranked constraint with weighted mean score of 3.00 followed by non-availability of labour during peak time (WMS-2.78) and less demand due to high prices (WMS-2.24). The findings also supported by Amarnath and Sridhar (2012) who concluded that in the study area farmers faced several problems in the production of organic turmeric and cotton. Organic growers expressed that the non-availability of labour was the most important problem (68.54) as most of the labour in the area were more willing to work under Mahatma Gandhi National Rural Employment Guarantee Scheme. Marketing constraints showed in table 5 such as no government subsidies for organic farming was top ranked constraint faced by organic farmers with WMS 2.51 followed by no special market for organic products (WMS-2.24) and lack of promoting agencies for organic farming (WMS-2.06). The second major constraint in the cultivation was the lack of quick organic certification (55.02). Similar trend was also observed in the studies of Singh and Thakur (2022) [9], Ghanghas *et al.* (2021) [3] and Ohlan (2020) [7].

Table 4: Production-related constraints of Organic Farming

N-150

S. No.	Production Constraints	Total Score	WMS	Rank score
1.	Low production in the starting phase	450	3.00	I
2.	Less demand due to high prices	336	2.24	III
3.	Lack of knowledge of seed treatment and variety	222	1.48	VI
4.	Lack of knowledge about insect/pest management	228	1.52	V
5.	Preparation of organic manure is a complex process	314	2.09	IV
6.	lack of labour during peak time	418	2.78	II

Table 5: Marketing and Certification Constraints of Organic Farming

S. No.	Constraints	Total score	WMS	Rank score
1.	No special market for organic products	337	2.24	II
2.	Lack of promoting agencies for organic farming	309	2.06	III
3.	Low demand of organic products	281	1.87	IV
4.	Transportation charges	265	1.76	VI
5.	Lack of storage facilities	263	1.75	VII
6.	No price premium in local market	248	1.65	VIII
7.	Complex procedure & long queue to get certificate	267	1.78	V
8.	No government subsidies for organic farming	377	2.51	I

Summary and Conclusion

All the respondents had knowledge about concept of organic farming and low knowledge about certification. It can be concluded that majority of the respondents had medium knowledge regarding organic farming. Education, annual income, organic farming experience, risk orientation and other variables had positive and significant relationship with knowledge of the respondents. Educated farmers learns new things quickly and they also take risk in farming operations. Maximum respondents faced constraint low production in the initial years and lack of labour during peak time. Without government subsidies and special markets for organic products also been constraints for farmers.

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